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THE AMERICAN YEAR BOOK

A Record of Events and Progress

YEAR 1935

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PREFACE

The present volume of THE AMERICAN YEAR BOOK is the twenty-first of the series. Pursuing the purpose of its founders, the book is offered to the reading public as a social, political and economic compendium of American life in the year 1935. The Editors have sought to present an interpretive picture of events and achievements in the United States and in the various areas of this country's influence. So broad a subject necessarily imposes a selective limitation as to scope. It has been deemed desirable, therefore, to append to each major topical division a list of learned societies and other organizations to which application may be made in the prosecution of study and research in any given field.

The plan and subject-treatment of this volume differ in certain respects from the plans of previous volumes. Heretofore the plan of the book embraced an extended sub-division of a general topic into individual articles, entailing some duplication of factual material. In the revised plan, emphasis has been placed on subjects which have loomed most prominently in the current year's developments, and those developments have been given a more comprehensive treatment than has been the case formerly. The reader, consequently, will find a less heterogeneous but better proportioned array of subjects and a more convenient access to the subject of particular interest. It should also be observed that the limiting of the number of subjects gives to the writers a broader range in reviewing the fields in which they are recognized authorities.

To state more specifically the purposes to which THE AMERICAN YEAR BOOK is dedicated:—it is designed to promote the pursuance of study and research in all significant activities of the day; to present a portrayal of life in the United States for the information of the layman; to reduce to measurable terms the mass of daily news developments and to provide a convenient repository for the substance of such records; to stimulate pride and interest in America and American affairs, and to appraise America's relations to the rest of the world. In addition to the narrative articles, the book presents extensive chronological tabulations of financial and economic affairs and of national and international political and social events. Statistical material is more freely supplied than formerly. A complete index is provided as a key to the whole.

Since the reorganization of THE AMERICAN YEAR BOOK CORPORATION in 1925, the publication of the YEAR BOOK has been made possible by the generous aid and cooperation of THE NEW YORK TIMES COMPANY. The Editors desire to express here, in their own name and in behalf of the members of the Supervisory Board and the officers of THE AMERICAN YEAR BOOK CORPORATION, their keen sense of loss in the death of Mr. Adolph S. Ochs. Humanity has been deprived of a great-hearted friend and the intellectual world of a practical and zealous patron.

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THE AMERICAN
YEAR BOOK

THE
AMERICAN YEAR BOOK

A RECORD OF EVENTS AND PROGRESS

PART ONE
HISTORICAL

DIVISION I
AMERICAN POLITICAL HISTORY

THE PRESIDENT AND HIS POLICIES

By Everett S. Brown
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SOCIAL SECURITY AND WORK RELIEF

In his annual message delivered to Congress on Jan. 4, 1935, President Roosevelt emphasized the point that "we have undertaken a new order of things." He decried any attempt to make a distinction between recovery and reform, declaring that "it is important to recognize that while we seek to outlaw specific abuses the American objective of today has an infinitely deeper, finer and more lasting purpose than mere repression." Insisting that the security of the men, women and children of the nation remained our first and continuing task, he said that "every major legislative enactment of this Congress should be a component part of it." This program involved, according to the President, the security of a livelihood through the better use of the national resources; the security against the major hazards and vicissitudes of life; and the security of decent homes. The President also declared that the Federal Government "must and shall quit this business of relief." Bills to carry these plans into effect were introduced in Congress.

On April 28, President Roosevelt delivered a radio address in which he reported progress. He stated that the Administration was not proceeding in haphazard fashion but that each step taken had a definite relationship to every other step. He said that his most immediate concern was the carrying out of the purposes of the work program of Congress, which had for its first objective the putting to work of men and women who were on the relief rolls. In directing the work relief program, the President said he would recognize six fundamental principles: (1) the projects should be useful; (2) they should be of such a nature that a considerable proportion of the money spent would go into wages for labor; (3) projects would be sought which promised ultimate return to the Federal Treasury of a considerable proportion of the costs; (4) funds allotted for each project should be actually and promptly spent and not held over until later years; (5) projects must be of a character to give employment to those on relief rolls; (6) projects would be allotted to localities or relief areas in relation to the number of workers on relief rolls in those areas. In organizing the work the President set up three divisions: (1) a division of application and information to study and consider all proposals for the expenditure of money; (2) an allotment division to consider recommendations and submit those approved to the President; and (3) a progress division, with the duty of coordinating the purchase of materials and supplies and of making certain that people who are employed will be taken from the relief rolls. Referring to the social security legislation then before Congress, President Roosevelt described it as ''a necessary part of the future unemployment policy of the Government.'' By means of old-age pensions it was proposed ''to help those who have reached the age of retirement to give up their jobs and thus give to the younger generation greater opportunities for work and to give to all a feeling of security as they look toward old age. Unemployment insurance would help to guard the individual against dependence on relief; it would cushion the shock of economic distress, and would be an incentive to employers to plan more carefully in order to prevent unemployment. On signing the Social Security Bill, on Aug. 14, the President remarked that the law represented ''a cornerstone in a structure which is being built but is by no means complete,'' a law which would not only take care of human needs but would protect future administrations against the necessity of going deeply into debt to furnish relief to the needy. In his address at Atlanta on Nov. 30, he characterized the Social Security Act as the ''supreme achievement of the present Congress.''

At a press conference on Dec. 23, President Roosevelt limited the Administration's relief commitment to caring for 3,500,000 employable unemployed persons in this fiscal year. He refused to discuss the period beyond June 30, 1936, but denied that he had pledged the government to supply work for persons able to support themselves and their dependents, but for whom no place could be found in private industries. He maintained that the States and their subdivisions had complete responsibility for the entire problem over and above the 3,500,000, because this was the total fixed by Congressional enactment and for which Federal funds were available. As part of his work relief program President Roosevelt set aside $50,000,000 from work relief funds to give more than 150,000 young Americans the educational and vocational opportunities of which the extended depression had threatened to deprive them. By Executive Order of June 26 he established a National Youth Administration, headed by a National Advisory Committee, to supervise the work. Included in the program was a plan of training selected youths for government service, foreshadowing a permanent civil service organization similar to that of England. As another part of the relief program the President established the Rural Resettlement Administration, under the direction of Rexford Tugwell, with the twin objectives of the creation of work on community projects and the provisions of funds for rehabilitation and resettlement. This involved settling city dwellers on farms and moving rural people from barren land to fertile land.

NATIONAL RECOVERY

In his public radio address of April 28, President Roosevelt made a plea for the continuation of the National Industrial Recovery Act (due to expire June 16). He intimated to Congress that he favored an extension of the law, with certain modifications, for two years. Proposed legislative action, however, was dropped when, on May 27, the Supreme Court by unanimous decision in the Schechter case held the National Industrial Recovery Act to be in conflict with the Constitution. Speaking to a conference of newspapermen the President made known his bitter disappointment over the Supreme Court's decision, the implications of which he characterized as much more important than any decision since that in the Dred Scott case. After reviewing the opinion of the court in detail, the President said that the big issue raised was whether the government of the United States shall in the future have no right under any implied power to control any national, economic or social problems, or whether these problems must be settled by individual states. The President contended that the implications of the Schechter decision had stripped the Federal Government of a great many powers and that we had been relegated to the "horse and buggy" age. He maintained that powers must be attained or restored to the Federal Government to legislate and administer laws that have a bearing on general control over national economic and social problems. Although the President declared that what he said was not a criticism of the Supreme Court, critics were quick to seize upon the statement as a possible political issue and promptly coined the slogan "Save the Constitution."

Probably no statement made by the President aroused so much opposition as this one. This opposition indicated clearly that the President's policies had passed the peak of their popularity. It may have been due in part at least to this opposition that President Roosevelt in his address to the young Democrats on Aug. 24 said: "Any paternalistic system which tries to provide for security for everyone from above only calls for an impossible task and a regimentation utterly uncongenial to the spirit of our people." So, too, in his reply to a letter from the newspaper publisher Roy W. Howard, the President stated that his basic program of legislation had been reached and a "breathing spell" was here—an assurance which met with the hearty approval of business leaders. Yet the President had not given up all hopes for some sort of a revival of the NRA. At San Diego on October 2 he said that an overwhelming proportion of the business men with whom he had talked had told him that unless they could unite for the elimination of unfair and destructive practices, nothing but chaos and insecurity could be expected. "The principles," he declared, "so widely accepted under the National Industrial Recovery Act, still live, and means for their application, I trust, can be found." To Major George Berry was given the title of Coordinator for Industrial Cooperation and the task of getting together representatives of management, labor and consumers in the hope that discussion would develop an agreement as to the best means of accelerating industrial recovery and the elimination of unemployment—a hope which died in a conference marked by bitter resentments on both sides. In a brief Executive Order of Dec. 23, President Roosevelt terminated the National Recovery Administration and the office of administrator, thereby bringing to an abrupt end what, in 1933, he had termed as probably "the most important and far-reaching legislation ever enacted by the American Congress." (See THE AMERICAN YEAR BOOK, 1933, p. 6.)

FARM POLICY

Speaking on May 14 to a delegation of farmers, President Roosevelt remarked that "I think that you and I are agreed in seeking a continuance of a national policy which on the whole is proving successful." In a speech at Fremont, Nebraska, on Sept. 28, after reviewing the policy and accomplishments of the Administration with respect to farmers, he said: "I like to think of the Agricultural Adjustment Act not merely as a temporary means of rescue for a great industry, but as the expression of an enduring principle carved in stone by a nation come to maturity." In this connection the true function of government under our Constitution, in the opinion of the President, was "to promote the general welfare, not by interfering unduly with individual liberties, but by bringing to the aid of the individual those powers of government which are essential to assure the continuance of the inalienable rights which the Constitution is intended to guarantee." On Oct. 25, the President declared that it never was the idea of those who framed the act that the Agricultural Adjustment Administration should be either "a mere emergency operation or a static agency," but rather that it would pass from purely emergency phases to "a long-time, more permanent plan for American agriculture." Tests of popular opinion on the AAA disclosed that it was favored in the agricultural regions where its benefits were most immediately felt and opposed bitterly in manufacturing and industrial centers.

The constitutionality of the processing tax was questioned and, as the year came to a close, its fate rested with the Supreme Court.

SOLDIERS' BONUS

President Roosevelt throughout the year persistently opposed immediate payment of adjusted certificates to World War veterans. Early in January, in a letter to the commander of a Texas post of the American Legion he laid down his reasons for refusal to accede to the veterans' demands. They were: (1) that veterans as well as non-veterans shared in all the expenditures for relief in the recovery campaign; (2) a definite and distinct preference was being given to veterans; (3) payment was not due until 1945; (4) immediate payment of the bonus would be $1,620,000,000 over and above the present value and $2,320,000,000 above the amount fixed by Congress as the original basis adjustment; (5) immediate payment would not stimulate business; (6) since the majority of the veterans, in the event of death, leave nothing else to their families except the adjusted service certificate, immediate payment was not to the interest of the veterans. The same arguments were repeated and elaborated in the President's message to Congress on May 22 in which he vetoed the Bonus Bill. While declaring that everything possible ought to be done for the disabled veterans, he said that "the others, and they represent the great majority, are today in the prime of life, are today in full bodily vigor. They are American citizens who should be accorded equal privileges and equal rights to enjoy life, liberty and the pursuit of happiness. No less and no more." He insisted that in looking to the future, "it is of first importance that we yield not to the sympathy which we would extend to a single group or class by special legislation for that group or class, but that we should extend assistance to all groups and all classes who in an emergency need the helping hand of their government." In these words the President seemingly took a definite stand against any compromise bonus measure which might be introduced during his administration. The clarity and forcefulness of the veto message elicited strong popular approval but bonus advocates in and out of Congress freely predicted the passage of a bonus bill at the forthcoming session of Congress.

TAXES AND BUDGET

Charging that our revenue laws have operated in many ways to the unfair advantage of the few and have done little to prevent an unjust concentration of wealth and economic power, President Roosevelt, on June 19, recommended to Congress, in addition to the present estate taxes, "that there should be levied an inheritance, succession and legacy tax in respect to all very large amounts received by any one legatee or beneficiary," and also gift taxes to prevent possible evasion of this tax. He also recommended a definite increase in the taxes levied upon large individual net incomes and the substitution of a corporation income tax graduated according to the size of corporation income in place of the present uniform corporation tax of 13¼ per cent. However, on Sept. 29, in a statement accompanying a revision of the budget for the current fiscal year ending next June 30, he said that business conditions had improved so greatly that new taxes or increased rates in existing taxes would probably not be necessary, provided no new items of expenditure were added to the year's program. Although the President declined to supply definite information concerning the budget for the next year, he let it be known that he was preparing to make substantial reductions in appropriations. Such proposed action would seem to be in conformity with the trend of public opinion which favors retrenchment and a better balanced budget. In addition to increasing concern over the rise in the national debt, there is criticism of the continuation in the rise of relief expenditures at a time when business has been improving and employment increasing.

GOLD CLAUSE SUITS

In a message to Congress on June 27, President Roosevelt urged the withdrawal by the United States of its consent to be sued upon its currency or securities in order "to remove all possibility of any suits designed to hamper the government in administering and in financing its ordinary and emergency expenditures.'' He declared that ''not only justice to the holders of our currency and of our securities who support and rely on our policy of equal and uniform treatment to all, but also the interests of our entire people require that the government of the United States make it clear that it cannot and will not consent to the use of its courts in aid of efforts to sabotage the operations of government or in aid of private speculation.''

PUBLIC UTILITIES

President Roosevelt's policy with respect to public utility holding company legislation was expressed in his message of March 12, in which he said that ''we seek to establish the sound principle that the utility holding company so long as it is permitted to continue should not profit from dealings with subsidiaries and affiliates where there is no semblance of actual bargaining to get the best value and the best price.'' He declared that ''where the utility holding company does not perform a demonstrably useful and necessary function in the operating industry and is useful simply as a means of financial control, it is idle to talk of the continuation of holding companies on the assumption that regulation can protect the public against them.'' He regarded ''private socialism of concentrated private power'' as dangerous as ''governmental socialism,'' and ranged himself against both. Here, again, the close of the year witnessed the testing of the President's policy before the Supreme Court in cases arising out of the activities of the Tennessee Valley Authority.

MERCHANT MARINE

In a message to Congress on March 4, the President urged direct government subsidies to the merchant marine. In support of his policy he argued that peace subsidies granted by other nations might be used to the detriment of American shippers, that in the event of a major war in which we were not involved our commerce might find itself crippled through lack of ships for neutral peaceful foreign trade; and in the event of a war in which we were engaged American ships would be needed as naval auxiliaries and for the maintenance of necessary commercial intercourse with other nations. He said that such a subsidy ''must be based upon providing for American shipping government aid to make up the difference between American and foreign shipping costs.''

WORLD PEACE

The cardinal principle of President Roosevelt's foreign policy, as frequently expressed during the year, was a determination to keep free from foreign wars and foreign entanglements and to remain at peace with all the world. Yet at the same time the President issued a warning that while we must strive for international peace we must also protect ourselves. Denying all intentions of aggression, he declared we must maintain an adequate defense on land, sea and in air against aggression by others. Decrease in armament by other powers would be met by decrease in our own. With the outbreak of war between Italy and Ethiopia, the President, in conformity with the provisions of the neutrality act passed by Congress, prohibited all shipments of arms, ammunition and implements of war to the belligerent governments. He also warned all citizens of the United States to abstain from traveling on any vessel of either of the belligerent nations, and gave notice that any citizen doing so acted at his own risk. The government, through Secretary Hull, stated that it looked with ''sympathetic interest'' on the ''concerted efforts of other nations to preserve peace or to localize and shorten the duration of the war.'' At the London Naval Conference in December, Norman H. Davis, chairman of the United States delegation, declared emphatically that the United States would not take the initiative in naval competition. Quoting the President, he said that the policy of the United States was one of limitation and reduction rather than naval increase, and expressed the hope that through mutual understanding a naval race might be prevented.

CANADIAN RELATIONS

On Armistice Day, the President announced that the Canadian Prime Minister and he had reached a definite agreement which would ''eliminate disagreements and unreasonable restrictions and thus work to the advantage of both Canada and the United States.'' A few days later the full text of the trade agreement was made public. Its expressed purpose was to facilitate and extend the commercial relations between the United States and Canada by granting mutual and reciprocal concessions for the promotion of trade and thus to lower the barriers impeding trade between the two countries. In defending the agreement against its critics, Secretary of State Hull, speaking for the Administration, praised the methods employed in formulating the agreement, which he characterized as open, careful and thorough. All interested persons were invited to submit data and arguments concerning every tariff item in detail. Ten months of labor and consideration had been given to the preparation of the agreement. The completion of this agreement, he said, marked a definite step in the policy of the President to increase our foreign trade. So, too, the President, in his address at Chicago on Dec. 9, asserted that agriculture, far from being ''crucified'' by the Canadian agreement, actually gains from it. He pointed out that we export more agricultural products to Canada than we have imported from her, and shall continue to do so. Trade agreements were made with several other countries, including the Netherlands. The signing of these agreements aligned the President with Secretary Hull, as against the former adviser on foreign trade, George N. Peck, and others who opposed the Secretary's policies. It indicated that cutting tariff schedules and promoting foreign commerce were to be employed as a means of stimulating industrial revival.

SOVIET RUSSIA

Under instructions from our government, Ambassador William C. Bullitt called the attention of the Soviet Government to activities which were regarded as a flagrant violation of the pledge given by the Soviet Government on Nov. 16, 1933, with respect to non-interference in the internal affairs of the United States. The protest resulted from disclosures made at the Congress of the Communist Internationale, functioning on the territory of the Union of Soviet Socialist Republics. Our government declared that it considered the strict fulfillment of the pledge of non-interference an essential prerequisite to the maintenance of friendly relations between the two governments and, further, that it would be lacking in candor if it failed to state frankly that it anticipated ''the most serious consequences'' if the Soviet Government was unwilling to take appropriate measures to prevent further acts in disregard of its pledge to the government of the United States. The Soviet Government replied that it could not accept the protest, denying that it had any connection with the Communist International and hence that it had not violated any of its obligations. There, for a time at least, the matter rested.

MEXICO

In reply to a letter from Martin H. Carmody, Supreme Knight of the Knights of Columbus, demanding that he take action to halt persecution of religion by the Mexican Government, President Roosevelt said that in respect to the rights enjoyed by Mexican citizens living in Mexico, it had been the policy of his administration to refrain from intervening in such direct concerns of the Mexican Government. He repeated his earlier refusal to ''undertake a policy of interference in the domestic concerns of foreign governments and thereby jeopardize the maintenance of peaceful conditions.''

THE YEAR IN CONGRESS

By George C. S. Benson

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HIGH POINT OF LEGISLATIVE ACTIVITY

The first session of the Seventy-fourth Congress made a high water mark for legislative activity in this country. A long list of important new laws was topped by the Social Security Act which bids fair to revolutionize the conception of the purpose of government in the United States. A short list of major acts appears at the end of this article. In duration alone, the Congress was almost record breaking. With the aid of air cooling devices, the sitting was extended to Aug. 27. The session from Jan. 3 was 235 days, longer than any session since 1922.

More important than number of bills and length of session, however, was the fact that Congress wrote its own will in many major legislative enactments and made the Administration prove the case for the other major acts. The "semi-dictatorship" of 1933 was completely absent, and the trend toward reduction of executive power noted in 1934 was greatly enhanced in 1935. To give examples in three highly important legislative instances: the Administration banking bill was largely rewritten to satisfy the desires of Senator Glass and the Senate Banking Committee; the Social Security bill was long delayed until Congress could be convinced of the constitutional danger in the Clark amendment; and that most controversial provision of all, the Public Utilities Act, was modified when the House failed to follow the President on a number of test votes.

COMPOSITION OF CONGRESS

Two major factors tended to increase the importance of Congress as contrasted to the Executive. First, the Supreme Court decisions in the oil cases and in the NRA (National Recovery Administration) cases indicated that excessive delegation of legislative authority to the executive would not be countenanced by the courts. In other words Congress must go to work and set standards rather than leave difficult decisions to the President and the administering officers. Second, the phenomenon of a mid-term election landslide for the party in power returned an unwieldy majority to the Democrats. When Congress met to hear the President's message there were 322 Democratic, 102 Republican, 7 Progressive, and 3 Farmer-Labor Representatives. The roster of the Senate showed 69 Democrats, 25 Republicans, one Farmer Laborite and one Progressive. Democratic percentages in the House increased from 71 to 75; in the Senate from 61 to 72.

Despite the return of the dominant party to power, there were 109 new members of the House and 12 new faces in the Senate—the newcomers being Democratic to a man. The customary percentage of the new Congress—260, or almost one half—had served its apprenticeship in state governments; 174 had been legislators, and 124 had been administrators. Seventeen members of the Senate and five members of the House had once been state governors. A new significance attached to these figures because of the highly important grants-in-aid legislation which was to be enacted in the session. Men who had experience in State Governments became doubly valuable in Congressional discussions of bills whose major effect was on state government.

PATRONAGE

Proffers of jobs to responsive legislators continued to be one of the Administration's major modes of control. Moreover, Congress displayed an increasing appetite for such political plums. Despite the liberal spoils policy of the Administration, a very large number of appointments had been made on the basis of professional competence. Congressional guns were aimed at these by provisions for Senatorial approval of appointments for all positions over $5,000 in work relief.

The amendment providing for this carried by a vote of 43 to 38 on June 11. It was modified in conference by important exemptions, which left it applicable only to a small gross of officials in important posts.

On Feb. 7 a caucus of 76 new Democratic members complained about the handling of patronage in emergency agencies. Speaker Byrns announced that 10,000 CCC jobs will be reserved for deserving Democrats, and that personnel officers would be placed in the various departments to consider further complaints. At the same time, the President wrote Eliot Kaplan of the National Civil Service Reform League that he favored civil service for the administrative staff on work relief projects. Efforts of the House to increase its own patronage—chiefly clerks—were defeated by a vote of 146 to 241 on March 4. This came as a result of an interesting parliamentary situation. The bill had been amended to exclude relatives of members. Fearing that this would result in discharge of relatives now on the payroll, Congressmen voted the bill down.

REVISION OF RULES

At the beginning of the session Democrats found themselves in the paradoxical position of being forced to repeal the liberal discharge rule which they themselves had adopted in leaner times. The liberal rule provided that 145 members could petition the Speaker for a roll call on a motion to bring to the floor of the House a measure which was held in committee. It had been adopted by the Democrats in 1931 in reaction to the majority discharge rule of the Republicans. But the Democrats, in a position of power in the Seventy-third Congress, found undesirable legislation, especially bonus and farm mortgage legislation, brought out all too easily by the 145-member rule. So they vaulted out of the pit they had dug and returned to the majority discharge rule on Jan. 3 by a vote of 243 to 165.

No change was made in the Senate rules about filibustering, although Senator Glass proposed an amendment to the Senate rules to bar debate which was not germane to the pending bill. This action was in response to a filibuster conducted by Senator Huey P. Long (Louisiana) on the work relief bill. Senator Long lost caste on his filibuster of the NRA resolution when the Senate sat up all night to punish him. But he bobbed up again to filibuster an important Deficiency Appropriations Bill to death in the last day of the session. A number of other filibusters were conducted, including a successful one against Senator Wagner's anti-lynching bill.

PARTY CONTROL

If ability to pursue an Aristotelian middle path between divergent wings of a party is statesmanship, the Administration handled its unwieldy majority well. On questions like those presented by the Guffey coal control bill, the work relief bill, the revision of the banking bill and the limitation of tax suits against the Agricultural Adjustment Administration, conservative Democrats joined with Republicans to oppose the policies of the President. On problems like the bonus, silver inflation, the McCarran ''prevailing wage'' amendment to the work relief bill, radical Democrats attacked the Administration. Devoted service of party leaders in both Senate and House, however, gave President Roosevelt much of what he wanted in the way of general policies, although, as noted above, Congressional ideas were written into many important measures.

At the beginning of July the press made much of an incipient revolution against the President's ''must'' program of legislation. Mr. Roosevelt, perhaps feeling that a long session was better in 1935 than in the election year of 1936, held fast and secured most of the acts he wished before Congress adjourned. A resolution to adjourn was tabled in the House by a substantial vote on July 16 (For tabling, 261; 241 D, 12 R, 6 P, 2 FL. Against tabling 86; 16 D, 70 R).

A new effort to bridge the gap between Congress and the President was made by the selection of former Representative Charles H. West of Ohio as the President's contact man. West was nominally connected with the Farm Credit Administration but his time went to Congressional problems. He appeared at conferences between President Roosevelt and congressional leaders and took an active part in several legislative fights.

An old proposal bobbed up again in February when Representative Harlan defended his bill which would permit Cabinet members to defend their policies on the floor of the House. As usual, the bill made no progress.

AGRICULTURE*

The AAA Amendment Act, Approved Aug 24, 1935.—In pursuance of the President's recommendation that "agricultural adjustment with certain necessary improvements in method should continue," Congress passed this act to insure the constitutionality of the AAA (Agricultural Adjustment Administration) and to strengthen and clarify its administrative procedure. Every effort is made to avoid charges of unconstitutional delegation of power by prescribing exactly what shall be done in every phase of the agricultural program. This, of course, is a safeguard resulting from the hot oil and NRA decisions. The program is confined to interstate and foreign commerce, although an effort is made to work out a coordination of Federal and state programs. All past AAA acts are ratified.

Suits to recover processing taxes may be instituted but only after a claim has been presented with evidence that no part of the tax has been passed on to the consumer or back to the producer. Injunctions against collection of the tax are banned.

The above provisions are the result of a compromise between an Administration proposal to bar all suits against collection of the tax, and conservative Democratic and Republican opposition to this "tyrannous proposal." The Senate vote on July 19 on the amendment giving a limited right to bring tax suits was 61 to 23 (For 39 D, 20 R, 1 P, 1 F L; Against, 21D, 2 R).

A new clause in the act, designed to protect consumers, provides that no steps may be taken to maintain prices above "fair exchange value". Another clause eliminates price fixing for all agricultural commodities except milk. The latter clause resulted from a curious reversal of opinion. On July 16 the Senate voted 40 (31 D, 7 R, 1 D, 1 F.L). to 38 (27 D, 11 R) against eliminating the price fixing power of the Secretary of Agriculture. Partly as a result of a Circuit Court of Appeals decision against the processing tax, the Senate reversed itself the next day and voted 44 (29 D, 15 R) to 41 (31 D, 8 R, 1 P, 1 F L) against price fixing.

The Act also authorizes a "normal granary" plan for keeping supplies of non-perishable crops stored on the farm as insurance against a shortage or violent price fluctuations. It provides quota control of imported products which threaten prices of American grown products. A third of the recepits from import duties are allocated to subsidizing the export of farm products or to increase producer's returns on home grown products.

Marketing agreement methods are strengthened for milk, fruits, vegetables, soy beans, pecans and walnuts, and tobacco. Licensing of handlers is eliminated and administrative orders are substituted to enforce marketing agreements. Work relief funds may be appropriated to carry out existing options for the purchase of sub-marginal land. The administration, however, opposed this policy and is not likely to use power. The Tobacco Control and Cotton Control Acts are extended for another year.

The Farm Credit Act Approved June 3, 1935.—This act included numerous amendments to the Emergency Farm Mortgage Act, the Farm Credit Act, the Agricultural Marketing Act, and the Federal Farm Loan Act. Its most significant provision reduced interest on all Federal Land Bank loans through national farm loan associations to 3½% for the year beginning July 1, 1935 and to 4% for the ensuing two years. Interest on direct loans of the Land Banks was reduced to 4% and 4½% respectively for these two periods. After June 30, 1938, interest is to be at the contract rates. These provisions were not Administration proposals but survived two fairly close test votes in the Senate. On Feb. 8, the vote was 39 to 33 and on Feb. 11, 43 to 39.

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* The following digest of the principal enactments of the session draws much of its material from Hal H. Smith's excellent summary in *The New York Times* of Aug. 27. The writer has also drawn on publications of the Chamber of Commerce of the United States and of Editorial Research Reports. At times he has used E. P. Herring's entertaining review of Congress in the *American Political Science Review*. These publications, however, are not responsible for any mistake in the account which follows.

Other provisions of this act extended until Jan. 1, 1940 the terms for direct loans to farmers on first and second mortgages. Loans may be made for the purchase of farms as well as to refinance debts and to repurchase farms lost through foreclosure.

Consolidated debentures may be issued by Federal intermediate credit banks. These banks may discount paper for cooperatives. Cooperatives are privileged to borrow from the FCA (Farm Credit Administration) at rates similar to those charged borrowers from the Federal intermediate credit bank of the district.

Strong efforts were made to insert riders crippling the reciprocal tariff powers of the President. These were defeated on three roll-call votes in the House on July 23.

The Tobacco Inspection Act, Approved Aug. 23, 1935.—This act provides an official inspection service for tobacco. The Secretary of Agriculture is authorized to establish grades of tobacco and to designate markets. In these markets, tobacco is to be certified before being offered for sale after two-thirds of the growers have approved the inspection service. A market service for growers is also authorized.

The AAA Rice Amendment Act, Approved March 18, 1935.—This act levies a processing tax on rice at the rate of one cent per pound from April 1, 1935 to July 31, 1936. Tax payment warrants may be issued to holders of rough rice from the 1933 and 1934 crops. The floor stocks tax on clean rice is eliminated.

The Farm Research Act, Approved June 29, 1935.—This act authorizes appropriations which increase from $1,000,000 for the fiscal year 1936 to $5,000,000 in the fiscal year 1941 and thereafter. The act provides a fiscal policy for an agriculture experiment station research program. Sixty per cent goes to state and 40 per cent to Federal stations. Similar increases in agricultural extension work from $8,000,000 to $12,000,000 and in land grant college endowments from $980,000 to $1,500,000 are authorized. These funds are to be allocated to the states following the basis of the Smith Lever Act of 1914.

THE BANKING ACT, APPROVED AUGUST 23, 1935

This act was at first the source of considerable dispute between the Administration which wished to extend its control of banks through the Federal Reserve System and the conservative group, headed by Senator Glass, who wished to divorce the Federal Reserve System from Administration control. The bill as passed was far from the Administration form. It was rewritten by Senator Glass, in the Senate Banking Committee, to decrease the influence of the Administration in the System, but to extend the powers of the System as much as the Administration wished. In this form the Administration did not oppose the bill, whatever its wishes may have been. It passed the Senate without a record vote, emerged from conference largely in the Glass version, and received President Roosevelt's approval.

The Federal Reserve Board is reorganized into a seven-member board appointed by the President for 14 years at $15,000 salaries. Terms are arranged so that there will not be more than one regular vacancy every two years. The name is changed to ''Board of Governors of the Federal Reserve System'', and the *ex-officio* membership of Secretary of the Treasury and the Controller of the Currency ends after Feb. 1, 1936.

A Federal Open Market Committee is established as of March 1, 1936. It is to consist of the seven governors and five regional representatives of the 12 Federal Reserve Banks. This Committee will have power to control credit fluctuations by purchasing and selling government bonds, notes, or other obligations on the open market through the Reserve Banks, which must follow instructions of the Committee. Direct obligations of guaranteed obligations of the United States are made eligible for purchase by Federal Reserve Banks without regard to maturities but ''only in the open market.'' Existing requirements for maintenance of reserves against deposits are maintained but they may be doubled by a vote of not less than four of the seven members. Reserve Bank changes in rediscount notes are subject to board approval and must be restated if deemed necessary by the Board.

Heads of Federal Reserve Banks—designated ''Presidents''—are to be selected for five-year terms by the board of directors of their banks, subject to approval of the Board of Governors. National banking associations are allowed to make first lien loans on improved real estate up to 50% of the appraised value for not more than five years. In the case of amortized loans, this is extended to 60% for 10 years. Loans cannot be made in excess of capital and surplus of the bank or of 60% of its time and savings deposits, whichever is the greater. National banking associations are limited in respect to purchases of securities of one issue to 10% of the paid capital stock and surplus fund.

The temporary act of June 28, 1935 extending deposit insurance to Aug. 31, 1935 is made permanent, fully insuring bank deposits up to $5,000 per depositor. The annual assessment on banks for membership in the insurance fund is set at 1/12 of 1% of their average deposit liability. State banks with deposits of $1,000,000 or more must join the Federal Reserve System by July, 1942, to continue insurance of deposits. Non-member banks may terminate their insured states on 30 days notice.

The Secretary of the Treasury is required to purchase obligations of the Federal Deposit Insurance Corporation to an amount not exceeding $250,000,000 when the directors require it.

BANKRUPTCY

The Livestock Bankruptcy Act, Approved May 15, 1935.—This act expands the definition of farmers under the National Bankruptcy Act of 1898 to include livestock raisers.

The Frazier-Lemke Farm Mortgage Act, Approved Aug. 28, 1935.—This act is a modification of the five-year farm moratorium declared unconstitutional by the Supreme Court on May 27. It reduces the period in which the farmer is allowed to retain possession to three years. Possession is under supervision and control of the court, and is conditioned on payment of a ''reasonable rental'' for the property. The rental is to be used for payment of taxes and upkeep and the remainder is to be applied to the creditors' claims. At the end of the three years, the debtor can regain unencumbered possession by paying into the court the amount of the appraisal of the property of which he retains possession, less the amount paid on principal. Upon request of any secured creditor or creditors holding a lien on the property, the court shall order its sale at public auction. The debtor is allowed 90 days to redeem the property at the sale price plus 5 per cent interest.

COMMUNICATIONS

The Air Mail Act, Approved Aug. 14, 1935.—The initial period for airmail contracts is extended from one year to three; extensions are limited to 250 miles; a minimum of 750 miles is set for primary routes; and ''at least three'' transcontinental routes are authorized. Total route mileage is increased from 29,000 to 32,000 miles and total plane mileage from 40,000,000 to 45,000,000. The Interstate Commerce Commission is required to determine reasonable rates of compensation for each route and to fix the method of compensation—space or weight, or both. Losses from unprofitable maintenance of non-mail schedules are to be disregarded in rate determination and the maximum rates set in the 1934 Air Mail Act continue in force. The Commission is to report to Congress by 1936 as to whether or not rates on certain routes are sufficient. Limitation of contractors to one primary route which had been postponed until April, 1, 1936 by an Act of Feb. 21, 1935, was moved up to July 1, 1935. Contractors are also forbidden to operate off-time air services unless such services were in operation on and prior to July 1, 1935. During the session, the Senate created a standing committee on Air-Commerce and Civil Aviation.

McKellar Mead 40-Hour Mail Act, Approved Aug. 14, 1935.—A 40-hour week is provided for 123,000 postal employees as of Oct. 1, 1935. This covers supervisors, clerks, special clerks, carriers, rural delivery men, mail equipment shop workers, laborers in first and second class postoffices, clearers, janitors, telephone operators and elevator conductors. The benefits are extended to railway postal clerks by prescription of a maximum average day of six hours and 40 minutes.

The Telephone Inquiry Act, Approved March 15, 1935.—The Federal Communications Commission is allotted $750,000 for the inquiry and ordered to report to Congress with respect to all telephone companies engaged in interstate commerce and all affiliates or holding companies in which they have an interest or interlocking control: 1. The financial history and the capital structure and relationship of such companies including any structural evasion of state or Federal taxes or concealment or absorption of profits or action contrary to the public interest. 2. The extent and nature of intercompany service contracts or other transactions, especially between the A. T. and T. and the Western Electric Company and other manufacturers of electrical equipment. 3. The reasons for failure to reduce telephone rates and charges during years of declining prices. 4. The effect of monopolistic control upon reasonableness of rates. 5. The effect of mergers and acquisition of control by telephone companies, including ''write ups'' in purchase prices. 6. Methods of competition with other companies or industries. 7. Methods of controlling public opinion.

CONSERVATION

Soil Erosion Act, Approved April 27, 1935.—This act declares it to be the policy of Congress to control and prevent soil erosion and authorizes the Secretary of Agriculture to coordinate all Federal efforts in this direction. A Soil Conservation Service is established in the Department of Agriculture and unexpended funds for this purpose are allocated to it. The Secretary is empowered to conduct surveys and other research; to carry out preventive measures, including engineering operations, methods of cultivation, growing of vegetation, and changes in land use; to agree with or render financial aid to public or private agencies for the purpose of the act, and to acquire land for the same. Certain conditions may be attached to the expending of benefits to non-Federal lands.

CRIME CONTROL

Federal Marshals Act, Approved June 15, 1935.—United States marshals are empowered to serve process in any Federal judicial district. They and their deputies are authorized to arrest without warrant for any Federal offense committed in their district, and for any felony cognizable under Federal laws which has been or is being committed if they have reasonable grounds for believing that the person to be apprehended has committed or is committing the offence. Statutory authority for carrying firearms is given the marshals and deputies.

Prison Escape Act, Approved Aug. 3, 1935.—The Federal Prisons Act of May 14, 1930 is amended to make escape or attempted escape, before conviction, a criminal offence. The offence shall be a felony in case the person is in custody on a felony charge and the penalty shall then be imprisonment up to five years, or a fine up to $5,000 or both, in addition to any sentence for the original offence. If the original charge is only for a misdemeanor the escape is a misdemeanor and the punishment is limited to one year, and/or $1,000.

Poultry Racket Act, Approved Aug. 14, 1935.—The interstate poultry industry is brought under the Packers and Stockyard Act of August 15, 1921, in an effort to break up the ''poultry racket'' and to establish reasonable charges for services rendered at the destination of shipment.

THE NATIONAL THEATRE ACT, APPROVED JULY 5, 1935

This act provides for Federal incorporation of the non-profit ''American National Theatre and Academy,'' without capital stock, to present dramatical productions and to advance public interest in the drama as part of both theatre and literature. Development of the drama study in universities, schools and elsewhere and a school within the National Academy are further purposes of the act.

FOREIGN AFFAIRS

Defeat of World Court Adherence.—The President received one of his few decisive defeats of the session on Jan. 29, when the Senate rejected a resolution of adherence to the World Court, 52 to 36. Under the two-thirds majority rule, seven more affirmative votes were required. This defeat was surprising, since on Jan. 25, the Senate had rejected an important reservation which would have required Senate approval before the United States would submit a case to the Court. Father Coughlin's urgent appeals over his Detroit radio station, and William Randolph Hearst's animadversions against ''international entanglements'' re-aroused the animosities and prejudices of 1920, and lead to the defeat.

Other Treaties.—The only important treaty ratification during the session was the 1925 traffic in arms convention, ratified June 5 without a record vote. The treaty is intended to control the arms and munitions trade by requiring licensing and publicity on all shipments. Exporting countries must obtain permission from governments of importing countries before selling arms within their borders.

Other treaties which successfully ran the gamut of the Senate included a Pan American treaty for adoption of a special protective flag; an international sanitary convention to prevent transmission of disease by aircraft; an amendment to the convention for protection of industrial property, which allows patents on agricultural products; nine extradition treaties, and two war service exemption treaties.

The Neutrality Act, Approved Aug. 31, 1935.—This act of world-wide importance in view of the Italo-Ethiopian situation did not originate with the Administration at all, although President Roosevelt expressed sympathy with its objectives. A threatened filibuster at the close of the session was necessary to secure its passage. Existence of war between two or more countries is to be proclaimed by the President and thereupon there is to be an immediate embargo upon exports of implements of war to any of the belligerent countries under penalty of fine of $10,000, or five years imprisonment or both, and also seizure and confiscation of the illegal shipments. Ships may be required to post bond for compliance with the act before being given clearance.

A National Munitions Control Board, headed by the Secretary of State and including the Secretaries of War, Navy, Commerce, and Treasury, as well as one member each from Senate and House Committees on Foreign Relations and Foreign Affairs, is established. All persons engaged in manufacturing, exporting, or importing arms, ammunition and implements of war are required to register with the Secretary of State within 90 days after the act takes effect. A fee of $500 is prescribed for a five-year certificate. All such persons shall maintain permanent records of manufacture for export, importation and exportation of implements of war. A license from the Board is required for exportation of such goods.

The President is authorized to lay down conditions barring foreign submarines from American ports during any war in which the United States is a neutral. The President is also authorized to proclaim that no American citizen shall travel on any vessel of any belligerent nation except at his own risk, when this is necessary for maintenance of peace.

Foreign Service Appointment Act, Approved June 29, 1935.—The power of the President to make recess appointments and promotion of Foreign Service officers—removed by the Foreign Service Act of February 23, 1931—is restored. In the event of rejection of or failure to confirm a promotion by the Senate, the officer shall automatically be reinstated in his former position.

The Mexican Claims Act, Approved April 10, 1935.—This act provides for the settlement of claims included in the convention of April 24, 1934 between the United States and Mexico. A Mexican Claims Commission is created to adjudicate all claims of our nationals included in that convention. Two years are allowed for completion of the work of the Commission.

GAME AND WILD LIFE ACT, APPROVED JUNE 15, 1935

This act liberalizes the issuance of migratory bird hunting stamps by the Post Office Department. It broadens the Lacey Act of 1900, which prohibited shipment in interstate commerce of game or other wild life killed or shipped in violation of state laws, to include present day methods of transportation such as automobiles and airplanes. The restrictions are also extended to foreign commerce. Penalties are provided for violation of the act Payment to the states of a quarter of any revenue derived from Federal wild life refuges is authorized. The President is empowered to use work relief funds for acquisition of wild life refuges.

NATIONAL FORESTS CONTROL ACT, APPROVED APRIL 17, 1935

In the event that applications are submitted to the Secretary of Agriculture before April 17, 1936, he is authorized to terminate contracts for purchase of national forest timber made before June 30, 1934 without collection of damages for failure to cut all of the timber. Damages, however, may be collected on any reduction in the value of the remaining timber resulting from cutting and removal by the purchaser.

HOME RELIEF MORTGAGE ACT, APPROVED MAY 28, 1935

This act, which passed the House on March 12 by a vote of 400 to 2 and the Senate, April 12, without a record vote, was substantially an Administration measure, slightly liberalized by House and Senate amendments. It increased the capitalization of the Home Owners' Loan Corporation from $1,750,000,000 to $4,750,000,000 and amended earlier legislation to liberalize credit accommodations for home construction and repair. Maturity of mortgages which may be accepted as collateral for advances by Federal Home Loan Banks was extended from 15 to 20 years and a maximum limit of $20,000 on the mortgages replaced the previous maximum of $20,000 on value of property. Applicants who in good faith sought relief from the HOLC (Home Owners Loan Corporation) prior to the enactment of the new act or within 30 days thereafter are allowed to apply for loans. Special assessments are to be regarded as taxes by the Home Loan Bank Board. The prohibition against deductions of taxes of less than five per cent of the value of the property from the loanable value is removed. State institutions which are converted into Federal savings and loan associations are empowered to continue to make loans in the territory in which they operated under state charters.

The HOLC is authorized to purchase up to $300,000,000. 1. Federal Home Loan Bank bonds, debentures, or notes; 2. Full paid income shares of Federal savings and loan associations; 3. Shares in any member institution of a Federal Home Loan Bank. Accounts of such institution must be insured under Title IV of the National Housing Act, if the institution is eligible for such insurance.

The time within which loans must be made to be eligible for insurance under section of the National Housing Act is extended from Jan. 1, 1936 to April 1, 1936. Loans up to $50,000 are eligible if made for repairs or improvement to real property which for this purpose may be "apartment or multiple family houses, hotels, hospitals, offices, business or other commercial building, hospitals, orphanages, colleges, schools or manufacturing or industrial plants."

INFLATIONARY MOVEMENTS

Thomas Silver Bill.—Since the crash of 1929 there has always been very strong support in Congress for some form of inflationary measures, a support which the Administration has usually succeeded in defeating by vetoes or parliamentary manoeuvres. (Of course, many New Deal measures have had an "inflationary effect" through increase of credit.) In the 74th Congress, one expression of the desire came out in the Thomas silver inflation bill which was tabled by the Senate on March 23, 40-33. It was voted down in the House on March 26, 263 (197D, 66R) to 108 (80D, 19R, 7P, 2FL). Republicans and conservative Democrats combined to support the Administration.

Patman Bill.—Most nearly successful of inflationary proposals, however, was the Patman bill for inflationary payment of $2,000,000 of adjusted compensation certificates to veterans. This bill was substituted for the American Legion-supported, non-inflationary Vinson bill by close votes. (House, March 21, 202(21R, 7P, 3FL, 171D), to 191 (120D, 71R); Senate, May 7, 52(44D, 6R, 1P, 1FL) to 35(20D, 15R). Some conservative Democrats voted for the substitution in order to make the bill less palatable. It was vetoed by the President in a personally delivered message, and the veto was promptly overridden by the House on May 22, 322 (248D, 64 R, 7P, 3FL) to 98 (60D, 38R.) The strategy of the conservatives proved wise, however, when the Senate failed to give the bill the two-thirds overriding vote, but lined up 54 (41D, 11R, 1P, 1FL) to 40 (28D, 12R.) Efforts to tack bonus legislation on to the tax bill at the end of the session were forestalled by a promise that it would be first order of business in 1936.

OMNIBUS JUDGESHIP ACT, APPROVED AUG. 15, 1935

This act made permanent 14 temporary Federal district judgeships and removed restrictions on filling vacancies. It authorized filling any vacancies which exist or may occur in the following judgeships: two in Massachusetts; two in the southern district of New York; one each in the northern district of Texas, eastern district of New York; western district of Pennsylvania, eastern district of Michigan, eastern district of Missouri, western district of Missouri, northern district of Ohio, southern district of California, the district of Minnesota, and the district of Arizona.

LABOR

Wagner-Connery Labor Relations Act, Approved July 5, 1935.—This bill to outlaw company unions was passed by the Senate, May 16, by a vote of 63 to 12 and by the House on June 19 without a record vote. It makes it unlawful for employers to engage in five unfair labor practices "affecting commerce": 1. Interfering with or coercing employees in collective bargaining; 2. Domination of a labor union—including contributions to its financial support; 3. Discrimination in employment which is intended to encourage or discourage membership in a labor organization; 4. Discharge of or other discrimination against an employee for filing charges under the act; 5. Refusal to bargain collectively with representatives of employees.

A permanent National Labor Relations Board, with three members, five-year terms, and $10,000 salaries, is established to enforce the act. Against the wish of the Department of Labor, it was made an independent body. It may issue "cease and desist" orders which are reviewable by the courts. The labor organization with which the employer must deal is to be the majority organization. Where there is doubt the Board is authorized to order and supervise elections to settle this question. A minority of employees may present grievances. Two or three proposed amendments to the bill were strongly contested. In the Senate an amendment to forbid coercion of workers by labor unions was defeated on May 16, 21 to 50. Three similar amendments were defeated in the House. A House amendment restricting "collective bargaining units" to employees of one employer was adopted 127 to 87 on May 16, but was eliminated in conference. An amendment which would have forbidden strikes after an employer had entered into collective agreement was defeated 107 to 140.

Employment Service Act, Approved May 10, 1935.—This act alters the apportionments of funds for public employment offices under the Wagner Peyser Act of 1933 so that no state shall receive less than $10,000.

Bituminous Coal Conservation Act, Approved Aug. 30, 1935.—This measure provides a statutory code of fair competition for the bituminous industry. It is to be administered by a National Bituminous Coal Commission—five members, four-year terms, $10,000 each per annum, appointed by the President—in the Department of the Interior. A Consumers' Counsel, at $10,000 a year, is also created. Twenty-three district boards with one employee and two to 16 employer members are established. Voluntary associations of producers may establish marketing agencies within a single district. The "constitutional peg" for the act is the taxing power. An excise of 15 per cent of the sale price at the mine is levied on all bituminous coal. Members of the Code are allowed a credit of 90 per cent of the amount of the tax. The Code to be drafted under the act is to contain provisions relating to unfair practices, prices, marketing arrangements, and labor provisions. For each mine the district board is to establish minimum f.o.b. prices which, after Commission approval, become binding upon code members. Prices are to be based upon weighted average cost of coal produced in 1934 but adjusted to subsequent charges. The Commission can coordinate prices of districts serving common competitive marketing areas. It may also determine maximum prices to protect the consumer.

Labor provisions of the code must guarantee the right of employee organization and collective bargaining, freedom from restraint or coercion of employees, right of peaceable assemblage, freedom to join or refrain from joining a labor organization as a condition of employment, employee selection of check weighmen and employee inspection of weighing and measuring of coal. Living in company houses or trading at company stores may not be required as a condition of employment. Hours of labor agreed upon by contracts between producer of more than two-thirds of the annual tonnage and one-half the workers employed are to be accepted by all code members. The same ratio applies to wage agreements. A Bituminous Labor Board of three members named by the President, $10,000 maximum, is established in the Department of Labor. It may hold elections to determine who are employees' representatives, act as mediator, and in certain instances as arbitrator.

This act was greeted with loud shouts of "unconstitutional" and there is grave doubt of its validity. It was backed by the United Mine Workers of America and by the Northern Operators, an unusual harmony of capital and labor. The vote in the Senate on Aug. 22 was For, 45: 38D, 6R, 1P; Against, 36: 24D, 12R.

FEDERAL ALCOHOL CONTROL ACT, APPROVED AUG. 29, 1935

The act creates a Federal Alcohol Administration in the Treasury Department to take the place of the Alcohol Control Authority wiped out by the Schnider case. The administrator is to be appointed by the President at $10,000 a year. He may appoint his officers and employees without regard to civil service. By a system of permits the administration is to control and regulate the importation or shipment of imported distilled spirits, wines or malt beverages.

It is unlawful, except pursuant to a basic permit, to manufacture wines or distilled liquors or to sell or ship the same. These provisions become effective 60 days after the Administrator takes office. After March 1, 1936 a permit is required to engaged in the business of purchasing for resale, at wholesale, spirits, wines, or malt beverages. Previous Federal permits hold good and persons with certain criminal records cannot hold permits. All permits are conditioned upon compliance with requirements of the act, the constitution and other Federal laws.

Various unlawful practices, such as exclusive outlets, commercial bribery, consignment sales, labeling and advertising contrary to FAA rules are made unlawful. Bulk sales are forbidden except under FAA regulations and are permitted generally only (1) for export, (2) to distillers, rectifiers, or operators of bonded warehouses.

GOLD CLAUSE ACT, APPROVED JULY 25, 1935

Owners of gold clause securities of the United States are authorized to request and receive immediate payment of the amount of their obligations in dollars with interest to date of payment or to prior maturity or redemption date, whichever is earlier. Owners of coins or currency may also exchange the same, dollar for dollar, for legal tender currency. The time for exchange of securities expires on Jan. 1, 1936 or at a later date, not after July 1, 1936, which the Secretary of the Treasury may fix.

As a result of the Supreme Court holding in the gold clause cases, the right to sue the United States in connection with gold clause securities, coins and currency, or any claim arising out of the surrender, requisition, or seizure of such coin, currency, or of any gold or silver, and involving any change in the metallic content of the dollar is withdrawn. This withdrawal does not affect suits previously begun, or which may be filed by Jan. 1, 1936. Suits in which no claim is made for payment in excess of the face or nominal value in dollars of the securities or currency involved are not affected by this section.

NATIONAL DEFENSE

War Department Supply Act, Approved April 9, 1935.—As a reaction to a troubled world situation, military and naval appropriations were increased by one half of the 1935 appropriation. Army appropriations came to slightly more than $400,000,000, $85,000,000 more than in 1935. Of this amount, $60,000,000 was for river and harbor and Panama Canal maintenance and flood control. The act ordered an increase of nearly 40 per cent in the enlisted strength of the army from 118,750 to 165,000 men. The Army Air Corps is granted $45,000,000, an increase of $18,000,000. A direct appropriation of $500,000 is made to increase the enlisted strength of the National Guard by 5,000 men. Other appropriations are: Reserve Officers Training Corps, $4,500,000; Citizens' Military Training Camps, $2,000,000; organized reserves, $6,372,178. The increases aroused little opposition, the House approving the bill on Feb. 22, without a record vote and the Senate on March 8, 68 to 15—including higher appropriations than in the house bill.

Wilcox Air Base Act, Approved Aug. 12, 1935.—In contrast to the customary log rolling system of allocating naval and army bases, this act directs the Secretary of War to locate such additional permanent Air Corps stations and depots in such strategic areas as he deems necessary for training of the air force. Certain areas are to be given consideration in view of the weather and other conditions such as altitude and proximity to Alaska and Panama which they afford for training. Consideration of this bill raised the delicate issue of confidential administrative evidence before a Congressional committee. High army officers testified to the House Military Affairs Committee that the War Department bill would allow construction of a ''camouflaged'' air base near the Canadian border. This testimony was published with embarrassing implications in view of our non-fortification of the Canadian border. The President reproved the committee for publication.

Army Promotion Act, Approved July 31, 1935.—This act provides automatic promotion of half the 10,000 army officers who are eligible for promotion and accelerates the process for the others. Six per cent of colonels, nine per cent of lieutenant colonels, and 25 per cent of majors shall be on the authorized promotion list. One hundred and fifty-eight new colonels, 304 new lieutenant colonels and 890 new majors are created but the number of general officers is not expanded. Automatic promotion is provided for second lieutenants after three years service and first lieutenants after 10 years service. Any officer may retire after service between 15 and 30 years on an annual pension equal to the product of 2½ per cent of his active duty annual pay multiplied by his years of active service not in excess of 29 years.

West Point Cadet Act, Approved June 7, 1935.—The number of cadets is increased by providing one additional cadet for each member of Congress, and 132 cadets at large, 87 to be selected by the President and 40 by the academic authorities of ''honor schools'' designated by the War Department.

National Guard Officers Act, Approved June 19, 1933.—This act empowers the President to order National Guard officers to active duty in time of national emergency, except that if Congress has not declared a national emergency, no officer shall be employed on active duty for more than 15 days without his consent. The number of junior officers is increased.

Naval Supply Act, Approved June 24, 1935.—Naval appropriations were 460,000,000 or more than 60 per cent greater than last year's bill. Twenty million dollars was allotted to begin 24 new warships (which will cost $200,000,000 in all) and $76,000,000 for continuing an increase of 11,677 in the personnel of the navy—bringing it to 93,500 men—and the purchase of 555 planes were other features of the bill. Allowances for Naval Academy midshipmen are increased from three to four per member of Congress. The Great Lakes and the Newport Naval Training Station are reopened. Some efforts were made to cut the construction appropriation. The House Appropriations Committee lopped it in half and the bill in this form was approved without record vote. The Senate restored the original amount and passed the bill May 24 by a vote of 55 to 18. The final compromise was $20,000,000, only $3,000,000 short of the Senate figure.

Naval Line-Officers Act, Approved July 22, 1935.—The allowable officer strength is increased from 4 per cent to 4¾ per cent of the enlisted strength. It was estimated that this bill would permit the addition of 1,000 commissioned officers. A numerical limitation is placed on higher grades of officers, the excess to be carried in the rank of lieutenant commanders.

Naval Staff Corps Act, Approved Aug. 5, 1935.—Promotion for staff corps officers is made to that of line officers.

Naval Aviation Cadet Act, Approved July 15, 1935.—The grade of aviation cadet is created in Naval Reserve and Marine Corps Reserve. Active duty for four years is followed by eligibility for reserve commissions.

Naval Public Works Act, Approved April 15, 1935.—The Secretary is authorized to proceed with construction of public works projects at various naval shore stations at a cost of $40,000,000 including a $10,000,000 floating dry dock at Pearl Harbor, Hawaii.

Air Engineering Duty Act, Approved June 5, 1935.—This act authorizes the Secretary to designate line officers of the navy, who so desire, to perform aeronautical engineering duty. The President is authorized to transfer and appoint officers of the Construction Corps of the Navy for the same purpose.

PETROLEUM

The shipment of contraband of hot oil from any state in which produced is prohibited by the ''Hot-Oil'' Act, approved Feb. 22 and such shipments may be confiscated. The President may lift this prohibition when he finds that the supply is so limited as to result in a shortage or a restriction of interstate commerce in petroleum. The legislation is effective until June 16, 1937. The Secretary of the Interior is authorized by the Oil and Gas Prospecting Act, approved Aug. 21 to grant prospecting permits giving exclusive rights for periods of not more than two years to prospect for oil or gas upon no more than 2,560 acres of land where such deposits belong to the United States and are not within any known geological structures or producing field. Upon discovery of valuable deposits of oil or gas the prospector shall be entitled to a lease of one fourth of the land embraced in the permit.

TENNESSEE VALLEY ACT, APPROVED AUG. 31, 1935

This act amends the original Tennessee Valley Authority act of 1933 to confirm certain powers of the TVA and to settle certain interdepartmental difficulties. The Act was passed by the Senate on May 14, 59 to 19, and by the House on July 11. The TVA receives definite authority to sell surplus electric power, a right which had been questioned by the courts. The Board may sell electricity to states, counties, municipalities, and non-profit organizations within transmission distance of the dam, and may extend five-year credit to these organizations for the improvement of distribution facilities and ''incidental'' works.

The TVA is empowered to construct such dams and reservoirs in the Tennessee River and its tributaries as, in conjunction with the Wilson, Norris, Wheeler and Pickwick Landing Dams (all specifically authorized) will provide a nine-foot channel from Knoxville to the mouth of the river. The TVA is allowed to regulate power resale rate schedules and to acquire existing facilities for rural electrification.

A hot debate in the House Military Affairs Committee over the power of the Comptroller General to audit the TVA resulted in changes in the administration bill which pleased the General Accounting Office and displeased the TVA. The final form of the bill, gave indifferent satisfaction to Controller General McCarl. He is authorized to audit TVA transactions at least once a year. He may not publish his report until the TVA has a reasonable opportunity to examine his criticisms and explain or answer them. His office must pay for the audit except when portions of the cost may be changed to electricity generation. The TVA may exercise its own judgment in contract awarding.

NATIONAL RECOVERY

RFC Extension Act, Approved Jan. 31, 1935.—The life of the RFC (Reconstruction Finance Corporation) which otherwise would have ended on Feb. 1 is extended two years. Authority is given the RFC to make disbursements prior to Jan. 31, 1936 on account of any previous commitments. Maturing date of loans or renewals is extended to Jan. 31, 1943. The RFC may require arrangements for reduction of amortization of indebtedness as a condition to making railroad loans, subject to approval of the Interstate Commerce Commission. Commitments on railroad loans are limited to $350,000,000. With Presidential approval, the RFC may subscribe to non-assessable stocks of mortgage loan companies, trust companies, savings and loan associations, and other real estate mortgage institutions up to a total of $100,000,000.

The Commodity Credit Corporation is extended to April 1, 1937 and the Export-Import Banks to June 16, 1937. The power to loan to agriculture and industry is broadened to include sale of electrical, plumbing, or air-conditioning equipment or other household appliances, the amount available being increased to $300,000,000. Ten million dollars is made available for mining loans.

NRA Extension Act, Approved June 14, 1935.—Before the Supreme Court took the wind out of NRA sails with the Schechter decision of May 27, determined Congressional opposition to the Act, especially to the price-fixing features, was evident. A Borah amendment for restoration of anti-trust laws lost only 33 to 43 on Feb. 13 with full administration force against it. The bill for the ''skeletonized'' (more accurately, impotent) post-Schechter NRA passed the House on June 7, 264 to 121 and the Senate on June 13, 41 (39D, 1R, 1FL) to 13 (4D, 9R). The new bill extended NRA to April 1, 1936 and repealed power delegated to the President to prescribe codes. It limited codes which exempt from anti-trust provisions to those which prescribe wages, maximum hours, prohibition of child labor, and prohibition of unfair competitive practices ''which offend against existing law, including anti-trust laws,'' by a curious bit of circular reasoning.

Work Relief Act, Approved April 8, 1935.—The legislative career of this $4,880,000,000 bill had several interesting features. It was the largest single appropriation in American history. Senator Carter Glass, who successfully piloted it through the Senate, resisting all amendments which would weaken the Administration, did so because of his position as chairman of the Senate Appropriations Committee and voted against the bill on final passage. The fight over the American Federation of Labor's ''prevailing wage'' amendment was one of the hottest encounters of the Senate's session. The amendment was passed 44 to 43 on Feb. 21, and then rejected on reconsideration on March 15, 38 (19D, 18R, 1FL) to 50 (44D, 5R, 1P).

But the general votes on this tremendous appropriation were far from exciting. The House passed the bill on January 24, 329 (292D, 27R, 7P, 3FL) to 78 (68R, 10D (8 from Ga. 2 Va.)). The Senate put it through on March 23, 68 (55D, 11R, 1P, 1FL) to 16 (10R, 6D). Both houses accepted the conference report on April 5. Efforts to increase by five and decrease by three billion were roundly defeated.

The four billions of new appropriations was technically allocated as follows:

Roads, streets, etc.	$800,000,000
Rural rehabilitation	500,000,000
Rural electrification	100,000,000
Housing	450,000,000
White collar relief	300,000,000
CCC	600,000,000
State and local projects	900,000,000
Flood control and miscellaneous	350,000,000

The President is authorized to increase any appropriation by 20 per cent of the total amount. Prevailing wages apply on Federal building projects and other wages shall not be lower than existing private scales. FERA (Federal Emergency Relief Administration) is continued to June 30, 1936, and PWA (Public Works Administration) to June 30, 1937.

Disaster Loan Act, Approved July 26, 1935.—The RFC is authorized to make loans to non-profit corporations organized to rebuild where sites are unsafe or where there has been physical disaster, in the period 1934-1936.

SOCIAL SECURITY ACT, APPROVED AUG. 14, 1935

This act, providing a system of Federal old-age benefits and Federal grants to the states for unemployment insurance, old-age assistance and other purposes, passed Congress with surprising ease. A decade ago it would have been laughed out of Congress, but it passed the House on April 19, 1935, 372 (288D, 77R, 6P, 1FL) to 33 (13D, 18R, 2FL) and the Senate on June 19, 76 (60D, 14R, 1FL, 1P) to 6 (1D, 5R). Amendments substituting the Lundeen bill and the Townsend plan were rejected by votes of 204 to 52 to 266 to 56 respectively on April 18. The only exciting vote in the Senate was on Senator Clark's amendment, exempting employers who had private pension schemes from the payroll tax. The Senate passed the amendment 51 (35D, 16R) to 35 (30D, 3R, 1P, 1FL) but it was eliminated in conference on the ground that it endangered the constitutionality of the measure.

The Act establishes an independent bipartisan Social Security Board of three members appointed by the President, with Senate consent, $10,000 a year, six-year terms, changing one member every two years. Fifty million dollars is granted the states for needy persons above 65 years. The grants are to be matched on a 50-50 basis, with the Federal share limited to $15 per person per month.

A long-range contributory old-age pension system is to be financed by an income tax on employees and a payroll tax on employers rising from 1 per cent in 1936, ½ per cent every 3 years, to 3 per cent each in 1949. Pensions will be payable to qualified persons after January 1, 1942. They range from $10 to $85 per month.

Federal grants to states for unemployment insurance are to be based on a payroll tax with a graduated rise from 1 per cent in 1936 to 3 per cent in 1938 and thereafter upon employers of 8 or more persons. A credit of 90 per cent is to be allowed against this tax in the event of a state tax for unemployment insurance. Fairly strict conditions are laid down for state administration but states may decide as between pooled funds and insurance by employer or by industry.

Twenty-four million seven hundred and fifty thousand dollars is voted for grants in aid for needy dependent children for the current fiscal year; $3,800,000 annually for maternal and child health; $2,850,000 annually for care of crippled children; $10,000,000 annually for the Public Health Service, of which $8,000,000 is to be allotted to the states on the basis of need; $1,500,000 annually for grants to homeless children; $1,938,000 annually for grants for vocational assistance, and an undetermined sum for the blind. The appropriation bill carrying these amounts was defeated by Senator Long's end of session filibuster.

TAXATION

Revenue Act, Approved Aug. 30, 1935. — Complicated parliamentary maneuvres and a storm of protest (which was probably not based on a groundswell of public opinion) followed the President's submission of a "taxation of wealth" message on June 19. It was late in the session for drafting a new tax bill and threats of adjournment were rife. At first the President failed to make it clear that he wished enactment before adjournment, and after that there was suspicion that he wished to rush it through as a rider to a resolution for renewal of nuisance taxes. In any event, the bill went through fairly readily, passing the House on August 5, 282 (254D, 18R, 7P, 3FL) to 96 (18D, 78R). In different form it had been accepted by the Senate on July 15, 57 (48D, 7R, 1P, 1FL) to 22 (10D, 12R). The only real excitement in voting came over Senator LaFollette's proposal to raise the surtaxes in the lower brackets. This was accepted by the Senate Finance Committee on July 10, but it subsequently reversed its stand.

Surtaxes on individual incomes above $50,000 are increased. The new rates begin with 31 per cent instead of 30 per cent and progress upward to 75 per cent on surtax net income above $5,000,000, in place of a 59 per cent upper limit on incomes above $1,000,000. Corporation income taxes are graduated: 12½ per cent on net incomes below $2,000; 13 per cent on $2,000 to $15,000; 14 per cent on $15,000 to $40,000; 15 per cent on net income above $40,000. These rates replace a flat 13¾ per cent rate. Consolidated returns are limited to railroads. The tax is effective in 1936. Charitable contributions may be deducted only to the extent of 5 per cent of the corporations net income.

The capital stock tax is increased to $1.40 per $1,000 of adjusted declared value effective with the fiscal year ending June 30, 1936. New excess profits tax rates are in two brackets—6 per cent of a net income above 10 per cent on adjusted declared value of capital stock, and 12 per cent on net income greater than 15 per cent of such value. These taxes take effect in the first taxable year ending after June 30, 1936.

No gain or loss is recognized on receipt by a corporation of property in liquidation of another corporation when the receiving corporation owned 80 per cent or more of the stock.

Estate taxes are increased to rates beginning at 2 per cent on the first $10,000 over the exemption which is reduced to $40,000 to 70 per cent on estates above $50,000. This is effective as to decedents dying after passage of the act. Gift tax rates are also increased to maintain the ratio of 75 per cent of estate tax rates. This takes effect in the calendar year 1936. Personal holding company taxes are increased to make them conform to the higher surtaxes.

Nuisance Tax Act, Approved June 28, 1935.—This act continues for another two years the three cent postage rate and a great variety of excise taxes.

TRANSPORTATION

Rail Extension Act, Approved June 14, 1935.—The Rail Extension Act, approved June 14, 1935, extends for one year the office of Coordinator of Transportation.

Wagner-Crosser Rail Retirement Act, Approved Aug. 29, 1935.—This Act endeavors to meet the objections of the Supreme Court to the Rail Retirement Act of 1934, by basing the system on the taxing rather than the commerce power. It establishes annuities for railroad workers, 65 or older, who have had 30 years service. A Railroad Retirement Board of 3 members is to be appointed by the President; one on employer recommendation, one on employee recommendation, and the third disinterested at $10,000 a year. At Investigation Committee of members of Congress and others is established to report in 1936. Annuities are to be paid to rail employees from the Treasury. No financing is proposed and the act does not become effective until March 1, 1936. The bill was almost unopposed.

Railroad Reorganization Act, Ap-

proved Aug. 27, 1935.—This Act is designed to simplify and improve reorganization procedure. One Federal court would have jurisdiction over all property of the railroad; trustees shall be ratified by the Interstate Commerce Commission; and other precautions are inserted. Reorganization plans must be filed within six months and must be certified to the court of the Commission. The court must pass on the fairness of the plan to each class of creditors and stockholders. The legislation was recommended by the Federal Coordinator of Transportation.

Motor Carriers Act, Approved August 9, 1935.—Long needed legislation to bring interstate buses and trucks under Interstate Commerce Commission regulation finally went through Congress. The bill gives the ICC power to issue (1) certificates, (2) permits to operate contract carriers, (3) licenses for brokers, (4) regulations as to hours of labor and safety standards for equipment of private carriers. School buses, taxicabs, hotel cabs, farm vehicles, trolley buses, commercial buses or trucks used in municipal areas, and newspaper trucks are exempted. Maximum and minimum rates may be set for common carriers. Minimum contracts rates of contract carriers must be submitted for approval or disapproval. Intrastate rates are expressly exempted from Commission control. The Commission is to pass on issue of securities where the amount involved exceeds $500,000 and also on consolidations and mergers.

HOLDING COMPANY ACT, APPROVED AUG. 26, 1935

This Act, bitterly contested in Congress and promising to be as bitterly contested in the courts, required all the force of the Administration. The President's strongest opposition within his own party usually came from the left wing but this time it came from the right—much expanded by an unusually extensive lobbying and pressure campaign of the utilities.

Controversy came first when the Senate on June 12 passed the bill with the much to be disputed death sentence, 56 (45D, 9R, 1P, 1FL) to 32 (18D, 14R). An amendment for regulation only lost 44 (29D, 15R) to 45 (35D, 8R, 1FL, 1P). Senators Byrd, Glass, Walsh, and other conservative Democrats opposed the death sentence but it had strong administration backing. On July 3 the House voted to substitute its non death sentence version for the Senate bill, 258 (166D, 92R) to 147 (130D, 7R, 7P, 3FL). The air was filled with bitter charges of corruption and false propagandizing by utilities, and of threatened withdrawal of public works projects by the administration in cases where votes were cast against the bill. Both houses ordered investigation of lobbying on the bill. The result of the investigations cleared the Administration fairly well and left the utilities, or some of the representatives in an undesirable position. Partly as a result of this, the conferees paid little attention to a house instruction against the death sentence on August 2, and gave the administration much of what it wanted. On August 22 the House voted for the conference report, 219 (203D, 7R, 6P, 3FL) to 142, (59D, 83R) and the Senate passed it without a record vote.

The Act begins with a declaration that the national public interest is affected by the evils of holding company regulation. Companies are required to register with the Securities and Exchange Commission by October 1, 1935, filing charters, and all agreements with associate companies. After December 1, unregistered holding companies are forbidden to distribute gas or electricity in interstate commerce, to perform any services to any other public utility company, to sell securities in interstate commerce, or to engage in other interstate business.

Declarations regarding the selling or altering of securities are to be filed for authorization of the commission. Common stock must have a par value and no voting preferences. Bonds must be secured by first liens on physical property. Guaranties of liability on security of another company, trustees and receivers' certificates are also permissible. Exceptions are made if the security is for refunding or reorganization, and if failure to approve would impose an unreasonable burden, or if the security was authorized before January 1, 1933, and is necessary to the public interest. Securities must be adaptable to the business and be reasonable in amount. The commission may decide on terms of declaration, with due regard to state laws.

A holding company cannot acquire any interest in a company serving the same territory as another company without state approval. Without commission approval, no registered holding or subsidiary company shall, by means of interstate commerce, acquire any security or asset of any other business. Exceptions are made for government securities or for an act authorized by a state commission, where the business is largely confined to the state. Detailed information must be filed prior to approval of acquisition of interest. These acquisitions shall be approved unless the commission finds a tendency toward close control of the business.

The commission shall examine the corporate structure of every registered holding company and subsidiary with a view to simplifying the system. After January 1, 1938, it shall take steps to reduce operations to a single integrated public utility system, if more economical in operation, in one state, or adjoining states, or in a contiguous foreign county. The SEC may apply to the courts to enforce any order under this act.

Holding companies are prohibited from borrowing or lending or paying dividends in interstate commerce in contravention of the regulations of the commission. Contributions of holding companies or subsidiaries to candidates or political parties are forbidden. After April 1, 1936, performance of services, sales, or construction for affiliate companies must be approved by the SEC. Reports, records, statements of securities must be filed with the SEC according to regulations of the latter. The commission is given power to investigate, invoke court aid, require incriminating testimony, alter its rules or orders. Orders are subject to review of the Circuit Courts of Appeals and the Supreme Court on certiorari.

MISCELLANEOUS

Federal Register Act, Approved July 26, 1935.—Broad delegation of power in New Deal laws has resulted in much administrative legislation. Protests of lawyers against the difficult task of keeping abreast of the huge mass of rules, regulations, codes, and sometimes even press releases which had the force of law under the New Deal, resulted in the passage of this Act. It provides for prompt printing of proclamations, orders regulations, and notices in a new Federal serial publication to be known as the *Federal Register.* This is to be done under the auspices of the National Archives Establishment. In this daily *Register* must appear: all Presidential proclamations and executive orders of general applicability and legal effect; such documents or classes of documents as the President shall determine to have general applicability and legal effect; and classes of documents which Congress may order published. Every document which prescribes a penalty shall be deemed to have general applicability and legal effect for purposes of the Act. No document which should be published in the Register shall be valid against a person who has not had actual knowledge of it until copies have been filed in the National Archives Establishment.

Central Statistical Act, Approved July 25, 1935.—The Central Statistical Board is given a permanent statutory basis and authorized to coordinate and eliminate duplication of Federal statistical services and so far as possible of other statistical services. A Central Statistical Committee of the Secretaries of the Treasury, Agriculture, Commerce and Labor is created and the Board is required to report to it.

CONCLUSION

In conclusion, the final paragraph of E. Pendleton Herring's learned and interesting review of Congress in the *American Political Science Review* (December, 1935, p. 1005) is worth quoting: "All in all, the session here reviewed showed how 'political pickings' may in time be reduced to bones of contention. Filibusters, deadlocked conference committees, party splits, non-record votes, lobbyists—all contributed to the confusion of the law-making process. The 15,000 pages of the Congressional Record which set out the details add poignancy to the motto, 'In God We Trust'!''

To some this summary statement may seem misleading. No one would contend that the constant rivalry between legislative and executive lawmakers produce a well oiled machine like the administration of a large corporation. Some changes like granting the power of dissolution or of an item veto to the executive might be highly desirable. But who wants a perfectly functioning legislative machine? Separation of powers is deliberately calculated to slow up the legislative process. It probably is too effective a brake but it still has the utility of a brake.

After the unbalanced legislative control of the latter days of President Hoover and the equally unbalanced executive control of the Seventy-third Congress, the first session of the Seventy-fourth was fairly well balanced. Bills prepared by the administrative departments received a careful overhauling in Congress, as witness the Banking Act. The President gave in on occasions but secured the major points of his program by the use of patience and political dexterity. Much important and socially constructive legislation was passed after careful and critical perusal by the people's representatives.

Most of the political processes to which Dr. Herring objects are more or less inevitable parts of a democratic system. They could be reduced by ameliorative legislation but they can never be eliminated. To counter Dr. Herring's picture of the ''confusion of the law-making process'', nothing could be more appropriate than a quotation from the philosopher politician of Chicago, T. V. Smith: ''To settle peacefully conflicts of interest that might be fought to the death is civilization; to do it gracefully on the basis of equality is democracy; to do it with good humor and with mutual regard is magnanimity. When legislatures, the readiest guardians of these virtues, cease to desire improvement, America is stagnant; when leglislatures cease to function, America is dead.''

IMPORTANT LEGISLATION OF THE 74TH CONGRESS

(Adapted from *Current History*)

1. AAA AMENDMENTS. Seek to bring farm program within Constitution and to increase AAA's effectiveness.
2. ALCOHOL CONTROL ACT. Creates Alcohol Control Administration to control the liquor traffic.
3. AIR-MAIL ACT. Gives Interstate Commerce Commission power to investigate rates; fixes routes, general contract terms, etc.
4. BANKING ACT OF 1935. Strengthens Federal control over money and credit, but increased independence of the reserve system.
5. FARM MORTGAGE MORATORIUM ACT. Permits farmers to be adjudged bankrupt, to stay foreclosures for three years and, under certain conditions, to regain property.
6. GOLD CLAUSE ACT. Prohibits citizens after January 1, 1936, from suing the Government for damages arising from dollar devaluation.
7. GUFFEY-SNYDER ACT. Declares bituminous coal mining and distribution ''affected with a national interest'' and sets up regulation of the industry.
8. LABOR DISPUTES ACT. Establishes National Labor Relations Board to promote equality of bargaining between employer and employe and to lessen labor disputes.
9. MOTOR CARRIERS. Places interstate bus and truck lines under regulation of Interstate Commerce Commission.
10. NATIONAL DEFENSE. Appropriates nearly $1,000,000,000 to strengthen army and navy.
11. NEUTRALITY ACT. Directs the President, until March 1, 1936, to embargo munitions to foreign States that may be at war; sets up licensing of arms manufacture; prescribes regulations for conduct of Americans when country is neutral;
12. NRA EXTENSION ACT. Continues NRA in impotent form.

13. PETROLEUM ACT. Partially regulates interstate and foreign commerce in petroleum and its products.

14. RAILROAD PENSION ACT. Establishes retirement annuities for railroad workers.

15. RAILROAD REORGANIZATION ACT. Seeks to simplify and improve procedure for financial reorganization of railroads.

16. REVENUE ACT OF 1935. Increased rates on estates, gifts, corporations, capital stock and profits of personal holding companies; levies excess profits tax and increases surtaxes on individual incomes.

17. SOCIAL SECURITY ACT. Provides for Federal old-age benefits and assists States to extend aid to the aged, dependent and crippled children, maternal and child welfare, public health and State unemployment insurance.

18. TENNESSEE VALLEY ACT. Sanctions TVA sale of surplus power, building of additional dams, acquisition of electric facilities, etc.

19. UTILITY HOLDING ACT. Places holding-company control under SEC and limits extent of utility holding companies.

20. WORK-RELIEF ACT. Appropriates $4,880,000,000 to "provide relief, work relief and to increase employment."

Congress also adopted measures in regard to conservation of natural resources, crime, the foreign service, hours of work for postal employes, investigation of telephone companies, shipping and Spanish War veterans' pensions. The regular appropriation bills carrying a total of $7,550,000,000 were also enacted with the exception of the Third Deficiency Bill, which was lost in the final hours of the session.

NEW FEDERAL ADMINISTRATIVE AGENCIES

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CENTRAL STATISTICAL BOARD AND COMMITTEE

A Central Statistical Board and Central Statistical Committee were created to take the place of an old board bearing the same name which was created by Executive Order No. 6225 of July 27, 1933. The new Board and Committee were created by Public Act. No. 219, 74th Congress, approved July 25, 1935. The statute states the duties of the Board to be "to plan and promote the improvement, development, and coordination of, and the elimination of duplication in, statistical services carried on by or subject to the supervision of the Federal Government, and, so far as may be practicable, of other statistical services in the United States". The Board consists of a chairman appointed by the President and 13 other members to be selected in such manner as the President may prescribe. At least 10 of the members must be persons already in the service of the United States. The Central Statistical Committee consists of the Secretaries of Treasury, Commerce, Agriculture, and Labor. The Committee has supervisory powers over the Board and may order it to make investigations.

ELECTRICAL HOME AND FARM AUTHORITY

The Electrical Home and Farm Authority has been reincorporated under the laws of the District of Columbia. This reincorporation took place Aug. 1, 1935. Its operations have been made national in scope instead of being confined to the Tennessee Valley, as formerly. The organization assists in financing consumers in the purchase of electrical appliances such as ranges, refrigerators, water heaters, pumps and electrical farm machinery. It also makes loans on plumbing equipment used in connection with electrical appliances.

The organization does not sell equipment but assists in financing its purchase through dealers. It also seeks reduction in electrical rates by agreement with the utilities publicly and privately owned so as to make the operation of electric equipment less costly for the average home and farm. It also seeks cooperation with the manufacturers to lower the cost of electrical appliances for home and farm use. The corporation is controlled by a nine-member board of trustees. Its capitalization is $850,000. Purchasers are required to sign conditional sales contracts and notes and make a small down payment. The balances are to be paid in installments. The corporation purchases the conditional sales contract and note, when approved, from the dealer for the unpaid balance of the purchase price. The purchaser is allowed 24 to 48 months to pay for the appliances, depending on their character and durability.

RURAL ELECTRIFICATION ADMINISTRATION

The Rural Electrification Administration has much the same objective as the Electrical Home and Farm Authority. It seeks to assist by securing electrification for areas which are now without it. The Rural Electrification Administration was established by Executive Order No. 7037, dated May 11, 1935 for the purpose of initiating, formulating, administering and supervising a program of approved projects with respect to the generation, transmission, and distribution of electric energy in rural areas. Under suitable conditions it lends the entire cost of building power and light lines. Loans are normally made for 20 years and bear three per cent interest. Loans to private companies are generally secured by the credit of the borrower. In certain cases of non-profit-making agencies, the line itself will constitute the only security. For its purposes, $100,000,000 may be made available out of funds appropriated by the Emergency Relief Appropriation Act of 1935.

WORKS PROGRESS ADMINISTRATION

The Works Progress Administration was established by Executive Order No. 7034, May 6, 1935, and is responsible to the President for the honest, efficient, speedy and coordinated execution of the Works Program as a whole, so as to remove from the relief rolls and find employment for a maximum number of persons in the shortest time possible. The functions of the Administration are distributed among six large divisions headed by five assistant administrators and the Chief Engineer. The Chief Administrator has set up a Committee on Procedure whose function is to coordinate all operating procedure of the Works Progress Administration.

NATIONAL YOUTH ADMINISTRATION

The National Youth Administration was established within the Works Progress Administration by Executive Order No. 7086, of June 26, 1935. The main function of the National Youth Administration is to initiate and carry out a program for youth in relief families. It seeks to find employment in private industry for youths without work and out of school between the ages of 16 and 25. It seeks to provide jobs for such youths at relief projects suited to their abilities and to provide vocational guidance and training. It also seeks to extend part-time employment to needy college students and college graduates and some cash assistance to needy high school students unable to continue their high school work without aid. The work of the National Youth Administration is carried on through state youth divisions directed in each state directory, aided and advised by state advisory committees.

PUERTO RICO RECONSTRUCTION ADMINISTRATION

The Puerto Rico Reconstruction Administration was established in the Department of the Interior by Executive Order No. 7057 of May 28, 1935. The duties of this unit were declared to be "to initiate, formulate, administer, and supervise a program of approved projects for providing relief and work relief and for increasing employment within Puerto Rico''. The Director of the Division of Territories and Island Possessions is responsible for the administration of the unit.

RESETTLEMENT ADMINISTRATION

The Resettlement Administration was created by Executive Order No. 7027, April 30, 1935. By Executive Order No. 7028 of April 30, 1935, all property, functions, funds, etc. of the land program of the Federal Emergency Relief Administration were transferred to the Resettlement Administration. Executive Order No. 7041 of May 15, 1935 authorized the transfer of all property, functions, funds, etc. of the Division of Subsistence Homesteads, Department of the Interior to the Resettlement Administration. The Land Policy Section of the Agricultural Adjustment Administration and, by order of the Federal Emergency Relief Administrator, July 1, 1935, the functions of the Rural Rehabilitation Division, were transferred to the Resettlement Administration.

The President prescribed the duties and purposes of the Resettlement Administration as follows: (a) ''to administer approved projects involving resettlement of destitute or low-income families from rural and urban areas, including the establishment, maintenance, and operation, in such connection, of communities in rural and suburban areas; (b) to initiate and administer a program of approved projects with respect to soil erosion, stream pollution, seacoast erosion, reforestation, forestation and flood control; and (c) to make loans, as authorized under the Emergency Relief Appropriation Act of 1935, to finance, in whole or in part, the purchase of farm lands and necessary equipment by farmers, farm tenants, croppers, or farm laborers''.

The Resettlement Administration is operated in five divisions: (1) The Land Utilization Division initiates, plans, and executes land development projects. Lands are purchased for such public purposes as recreation, wild life preservation, or because the continuance of present usage to which it is not adapted raises serious social and economic problems. Land is purchased in large areas rather than small scattered tracts. (2) The Rural Rehabilitation Division continues and expands the program under which 290,000 farm families were taken from the relief rolls in the spring and summer of 1934 by the Rural Rehabilitation Division of the FERA. Farm families are to be added and substituted for those dropped until the number reaches 300,000. The purpose is to make the families self sustaining. The families are taken individually and not in groups. Most of the effort has been put forth in the cotton and tobacco belt. Loans are made for subsistence, purchase of live stock, machinery and the repair of buildings. These loans are secured by notes and mortgages. (3) The Rural Resettlement Division deals with the replantation of families removed from purchased areas or elsewhere if the land is too poor to provide a decent living. Up to 500,000 families will be assisted to locate in sections where the opportunity to secure a livelihood is brighter. Loans to such families are secured by notes and mortgages. (4) The Suburban Resettlement Division deals with the construction of low cost housing projects adjacent to industrial centers. The communities are established with funds allotted to the Resettlement Administration of the Works Program. (5) The Management Division assists in organizing community or cooperative associations on the projects. It undertakes guidance and in some cases supports educational and recreational facilities. This division also attempts to train community managers.

NATIONAL RESOURCES COMMITTEE

By Executive Order No. 7065, June 7, 1935, the National Resources Board was abolished and a National Resources Committee established. The Committee is to prepare for the President a program and plan of procedure dealing with the physical, social, governmental and economic aspects of public policies for the development and use of land, water and other natural resources. A committee of nine members has been appointed by the President. There is also an advisory committee of three members. This advisory committee may be increased at any time. The Committee makes use of technical advisory committees such as the Mississippi Valley Committee and the Planning Committee on Mineral Policy. The Industrial and Transportation sections made research surveys of problems in the fields of distribution and consumption.

SOIL CONSERVATION SERVICE

By Public Act No. 46, the 74th Congress directed the Secretary of Agriculture to establish the Soil Conservation Service for the following purposes: (1) to conduct surveys, investigations and research relating to the character of soil erosion and to publish and disseminate information as to preventive measures; (2) to conduct preventive measures such as engineering operations, methods of cultivation, growing of vegetation and changes in the use of land; (3) to furnish financial aid to persons seeking to conserve soil; and (4) to acquire lands or interests therein to carry out the purposes of the Act. The Soil Conservation Service was established April 27, 1935 and absorbed the Soil Erosion Service previously established.

WASHINGTON-LINCOLN MEMORIAL BOULEVARD COMMISSION

Public Resolution No. 19, approved May 20, 1935, created the Washington-Lincoln Memorial Boulevard Commission to prepare plans for the construction of a boulevard connecting the Lincoln Memorial and the Washington Monument with the Gettysburg battlefield.

SOCIAL SECURITY BOARD

The Social Security Board was established under Title VII of the Social Security Act, approved Aug. 14, 1935. The Board was established to carry out the duties authorized by the Social Security Act, and to administer the provisions relating to old age benefits, unemployment compensation, aid to dependent children and aid to the blind. It also administers grants authorized for maternal and child welfare under the Children's Bureau, public health work and vocational rehabilitation. The Board approves state plans for old-age assistance, aid to dependent children and blind assistance, also state unemployment compensation laws. Contributions by employers to such approved unemployment compensation laws will be allowed credit against a Federal tax. The Board makes grants to states with approved laws to cover their costs of administration.

NATIONAL BITUMINOUS COAL COMMISSION

The National Bituminous Coal Commission was created under the authority of the Bituminous Coal Conservation Act of 1935 approved Aug. 30, 1935. A body of five commissioners is established by the President with the advice and consent of the Senate for a four-year term. The Act divides the United States into nine areas and provides for the establishment of 23 district boards. The establishment includes the Office of Secretary, the Legal Division, the Price Division, the Statistical Division, the Information and Editing Division, Special Technical Staff and the Accounting Division.

The duties of the Commission are to organize a code and to determine what producers are entitled to membership. It reports code members to the Department of Internal Revenue for proper tax assessment. It formulates rules and regulations for hearings before the Commission and approves rules, regulations and actions of district boards. It passes on all price determinations on all bituminous coal produced in the United States and Alaska. It collects and correlates production and distribution cost data of the district boards. It finds facts concerning violations or unfair methods of competition and may certify these facts to the courts.

The Commission must study such problems confronting the coal industry as the conservation of coal resources, economic and safe operation of mines, rehabilitation of displaced mine labor, lowering the distribution cost for the benefit of the consumer and the necessity for control and allotment of production. The Coal Commission may intervene in all rate cases before the Interstate Commerce Commission affecting the transportation of coal. The Commission is required to enforce the orders of the Bituminous Coal Labor Board. The Consumers Counsel, created by the Act setting up the Coal Commission, may require the Commission to furnish him with such data as he requires. He may appear at any proceeding before the Commission in the interest of the consuming public.

NATIONAL LABOR RELATIONS BOARD

The National Labor Relations Board was reestablished by Public Act No. 198, approved July 5, 1935. The new Board consists of three members appointed by the President, confirmed by the Senate. The Board's powers are to issue cease and desist orders to prevent any person from engaging in specified unfair labor practises named in the Act. The Act provides that nothing in it shall interfere in any way with the right to strike. Hearings are ordinarily conducted before trial examiners in regions where the unfair labor practises occur. The trial examiner's intermediate report on evidence produced at the hearing contains findings of fact and in cases where the complaint is found justified, contains recommendations as to the steps the employer should take to end the specified unfair labor practise and the action necessary to carry out the provisions of the Act.

RAILROAD RETIREMENT BOARD

The Railroad Retirement Board was created by the Railroad Retirement Act of 1935, approved August 29, 1935. This Act is designed to meet the objections of the Supreme Court to the previous Act of June 27, 1934. The Board of three members appointed by the President with the consent of the Senate to carry out the provisions of the new retirement act whose purpose is declared to be "to provide for the satisfactory retirement of aged employees and to promote efficiency and safety in interstate transportation and to make possible greater employment opportunity and more rapid advancement of employees in the service of carriers". The Act provides for the compulsory retirement of employees at 65. By joint agreement, retirement may be postponed for one year at a time but in no event beyond the age of seventy.

A railroad Retirement Investigation Commission was also provided for by the above Railroad Retirement Act. The Commission is to be composed of three persons appointed by the President, three persons appointed by the Senate and three appointed by the House of Representatives for the purpose of "making a thorough investigation of all pertinent facts relating to a retirement annuity system applicable by law to carriers by railroads engaged in interstate commerce."

PRISON INDUSTRIES REORGANIZATION ADMINISTRATION

The Prison Industries Reorganization Administration was created by the President by Executive Order No. 7194 of Sept. 29, 1935 to investigate the industrial operations in penal institutions of all units of government, Federal, state and local. The Board of five members is to recommend a program of projects for existing prison industries looking to the prevention of competition between prison labor and private industry and labor, the elimination of idleness in penal institutions and the development of systems of rehabilitation and to recommend loans or grants in order to carry out the program.

ORGANIZATIONS ON APPLICATIONS, INFORMATION AND ALLOTMENTS

By Executive Order No. 7034, May 6, 1935 the President created a Division of Applications and Information and an Advisory Committee on Allotments. The former receives applications for allotments of funds and acts as an information service on the status and disposition of applications which were submitted. The latter makes recommendations to the President with respect to the allotments of funds for projects covered by the applications made to the Division of Applications and Information.

FEDERAL SURPLUS COMMODITIES CORPORATION

The Federal Surplus Commodities Corporation represents a change in name. It was organized and incorporated under the laws of the State of Delaware on Oct. 4, 1933 as the Federal Surplus Relief Corporation. The name was changed at a meeting of the board of directors on Nov. 18, 1935. The newly named organization took over all the assets and duties of the Federal Surplus Relief Corporation. It is a no stock, non-profit-making institution. The purpose of the corporation is to assist the Agricultural Adjustment Administration in the disposal of surplus farm products. Some of the commodities, including canned beef accumulated in connection with the 1934 drouth relief activities, were donated to the State relief agencies. The members of the Corporation are *ex officio*, the Administrator of the Agricultural Adjustment Administration, the Secretary of Agriculture and the Governor of the Farm Credit Administration. The statutes governing the authority of the authority of the Corporation are Public Act. No. 10, 73d Congress, approved May 12, 1933; Public Act No. 15, approved May 12, 1933; Title II Public Act No. 67, approved June 16, 1933; Public Act No. 93, approved Feb. 15, 1934 and Executive Order No. 750, Aug. 19, 1935.

FEDERAL ALCOHOL ADMINISTRATION

The Federal Alcohol Administration was established Sept. 23, 1935 to replace the Federal Alcohol Control Administration which had been established under Title I of the National Recovery Act. Under the new Administration, it is unlawful, except with a basic permit, to engage in the business of importing distilled spirits, wine or malt beverages. It also makes it unlawful for any person to produce such liquors or to sell and ship them in foreign or interstate commerce except under a basic permit. After March 1, 1936 it will be unlawful to engage in the purchase for resale at wholesale distilled spirits, wines or malt beverages except under a basic permit. Basic permits in all the above cases are conditioned on compliance with the requirements relating to unfair competition and unlawful practises and all other Federal laws relating to alcoholic liquors including taxes.

U. S. CONSTITUTION SESQUICENTENNIAL COMMISSION

The United States Constitution Sesquicentennial Commission was created by an Act of Congress, approved Aug. 23, 1935 to lay plans for the celebration of the anniversary of the formation of the Constitution. The Commission is to consist of the President and Vice President of the United States, the presiding officers of both legislative chambers, five persons appointed by the President, five senators chosen by the Vice President, and five Representatives chosen by the Speaker of the House of Representatives.

THE SUPREME COURT AND CONSTITUTIONAL LAW

By Thomas Reed Powell

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MAJOR CASES INVOLVING "NEW DEAL" LEGISLATION

Court Divisions.—After two years of waiting for authoritative pronouncements from the Supreme Court upon constitutional issues raised by the legislation passed by the Congress that began its duties on March 4, 1933, there came down during the last term of court some seven decisions of far-reaching permanent significance. In the divisions among the Justices, Mr. Justice Roberts seems to be the key man of the court. In passing on the gold policy of the Government and on the Act of Congress compelling interstate carriers to pension their employees, as he went, so went the Court. Thus during the past term he belied to an extent the hopes that he had roused the term before by joining with Mr. Chief Justice Hughes and Justices Brandeis, Stone and Cardozo to support the Minnesota mortgage moratorium and the New York regulation of the price of milk. The unanimous decisions condemning the Industrial Recovery Act and the Frazier-Lemke Act belied the hopes that had been roused in some quarters by the five-to-four milk and mortgage cases of the year before. Prediction on the basis of judicial psychology appears to be as precarious as prediction on the basis of the words of the Constitution or on the basis of judicial precedents.

Gold Cases.—Of the seven major cases, three involved the gold policy of the Government, and by the vote of five to four that policy was in fact sustained for the moment at least, though there are still open questions with respect to what the holders of United States bonds containing gold clauses may secure by way of compensation under other circumstances and conditions that those involved in the cases already adjudicated, unless decision is foreclosed by a subsequent Act of Congress restricting the right to sue the Government on its obligations. On the crucial points in the case involving the gold clause in United States bonds, Mr. Justice Stone did not agree with the reasoning of the majority opinion, though he concurred in the result. In part of the reasoning, four of the majority agreed with the minority four, though they found a way to escape from what would seem to be its natural consequence. We shall seek light from the opinions later, though we cannot promise that the light will be very bright. These gold cases were the only ones in which the Government was victorious.

Oil and Codes of Fair Competition.—Two cases involved different sections of the National Industrial Recovery Act. By a vote of eight to one, the Court, finding no standard to guide the executive determination, condemned the provision of the Act empowering the President to forbid the interstate transportation of oil put on the market in violation of the law of the state of its origin. For the failure of another section of the statute to set forth a sufficiently definite standard for the guidance of the President, the Court unanimously condemned the codes of fair competition that the President had promulgated. In the first case, the Court stopped with saying that the President had not duly vested with authority, and refrained from passing on the power of Congress under the commerce clause. In the second case, after declaring that all the codes must fall for unconstitutional delegation of legislative power, the Court unanimously went further and declared that Congress by explicit statute could not under the commerce power deal with the particular industry involved in the case. After thus twice disposing of the litigation, it refrained from considering due process objections raised by the defendants.

These due process questions would necessarily arise in similar regulation by Congress of enterprises found to be within the scope of the commerce power or in similar code regulation by the states.

Railroad Retirement Act.—Both due process questions and commerce questions were raised by the Railroad Retirement Act which required interstate carriers to provide pensions for retired employees. All of the Court agreed that some features of the plan were so arbitrary and unreasonable as to offend against the canons of due process of law enjoined by the Fifth Amendment. With respect to the major elements of the statutory provisions, four Justices found no offense against due process. These four dissented also from the further majority conclusion that no plan of compulsory pensions for any employees of any interstate railroads would be within the commerce power, since such pensions when compelled by law and not offered voluntarily by the employers are not in aid of transportation. After the majority of the Court thus closed the door to the use of the commerce power, Congress passed a new statute invoking the taxing power to gain the same end. This raises constitutional issues of a technical character quite different from those involved in the condemned statute, though the practical consequences are largely the same. The new statute is a complement to the Social Security Act which will raise still other issues as to the Federal taxing power.

The Frazier-Lemke Act for the relief of farmers whose farms were in danger of foreclosure was condemned by a unanimous court in an opinion by Mr. Justice Brandeis. The opinion did not decide whether relief of the nature attempted would be within the scope of the bankruptcy power, but went on the ground that the specific provisions were obnoxious to protected constitutional interests of mortgagees. Since the decision a new and somewhat less drastic act has been passed by Congress. This new statute has already been declared unconstitutional by several lower Federal courts, with only one decision in its favor up to the time when this is written.

Novelties of National Legislation.—This covers the cases on the statutes that have provoked the widest public interest as the novelties of contemporary national legislation. These novelties have been often collectively referred to as ''New Deal'' legislation. The phrase, however, might be used with more discrimination. The Railroad Retirement Act and the Frazier-Lemke Act were not the product of Administration initiative, and both acts were signed by the President with misgivings. The National Industrial Recovery Act was the resultant of two forces: the Black Bill for sharing employment, and a movement on the part of industrialists to escape from some of the restrictions of the Sherman Act. After the Act was passed and put into operation, it seems safe enough to say that it became the foster child of the Administration and so may be deemed to be a part of the ''New Deal'' program. The legislation with regard to gold and gold certificates and gold clauses sprang from considerations other than any in contemplation when the phrase ''New Deal'' was coined. Convenient as is the phrase for newspaper headlines and other captions, it is here avoided in the text because it puts in one basket statutes of varying origin and varying purpose.

The contitutional issues raised by these seven major cases fall into three groups, and several cases involve more than one issue. Questions of the scope of national power under the Federal system are answered by the cases on gold, railway pensions, and the NRA codes. Such questions were raised in the litigation but not answered by the decisions on ''hot oil'' and farm bankrupt mortgagors. Questions of the interrelation between the national legislature and the national executive were answered by the cases on ''hot oil'' and on the codes. Questions of the constitutionally protected interests of individuals were answered by the cases on gold and on farm bankruptcies. Similar questions were left unconsidered in the case on the Poultry Code which was decided adversely to the Government on the two other issues involved. The intermingling of the issues in the gold cases is such that it will be convenient to treat the cases as a whole together. Somewhat more separate treatment is feasible in dealing with other cases that involve more than one constitutional issue.

THE GOLD CASES

Acts Causing Issues Involved.—Before taking up these three cases seriatim, it may be well to outline the legislative and executive action that gave rise to the constitutional problems. By order of the President under delegation of power by the Congress in the Gold Reserve Act of 1934, the standard unit of the value of the gold dollar was reduced from its long established weight of 25 8/10 grains, nine-tenths fine, to 15 5/21 grains, nine-tenths fine, the order to be effective from and after Jan. 31, 1934. These standards will henceforth be referred to as the old standard and the new or the reduced standard. Prior to this reduction of the standard, "all persons were required to deliver, on or before May 1, 1933, to stated banks 'all gold coin, gold bullion and gold certificates,' with certain exceptions, the holder to receive 'an equivalent amount of any other form of coin or currency coined or issued under the laws of the United States'." Further orders restricted or prohibited the acquisition or export of gold and transactions in foreign exchange. These orders were in force prior to the devaluation of the standard dollar. No further legislation was involved in the decision on the gold certificate case which arose prior to devaluation though not decided until afterwards.

The resolution abrogating the gold clauses in private and public obligations was adopted by Congress on June 5, 1933, after the orders withdrawing gold from circulation and calling in gold and gold certificates and regulating export of gold and transactions in foreign exchange. After announcing its purpose "to assure uniform value to the coins and currencies of the United States," and reciting that gold clauses in obligations are inconsistent with the declared policy to maintain the equal power of every kind of dollar, the Resolution declares: "That (a) every provision contained in or made with respect to any obligation which purports to give the obligee a right to require payment in gold or a particular kind of coin or currency, or in an amount in money of the United States measured thereby, is declared to be against public policy; and no such provision shall be contained in or made with respect to any obligation hereafter incurred. Every obligation, heretofore or hereafter incurred, whether or not any such provision is contained therein or made with respect thereto, shall be discharged upon payment, dollar for dollar, in any coin or currency which at the time of payment is legal tender for public and private debts."

The Constitutional Issues.—In none of the cases before the Court did the litigants contest the power of the Government to call in gold and gold certificates, to prohibit the export of gold, to regulate foreign exchange, or to reduce the quantity of gold in the standard gold dollar. The issues were confined to what amount of currency should be paid for the gold certificates and what amount of currency should be paid by private borrowers and by the United States upon obligations calling for payment according to the standard dollar in force prior to the reduction of that standard and prior to the legislative abrogation of the gold clauses. The gold certificate was called for and presented prior to devaluation. The gold-clause obligations of private borrowers and of the United States were not due until after the effective date of all the statutes and orders heretofore detailed.

Retroactive Abrogation of Gold Clause.—The decision first announced had to do with the retroactive abrogation of the gold clause in private obligations. This was Norman *v.* Baltimore & O. R. Co. (294 U.S. 240). The three majority opinions in the three cases were written by Mr. Chief Justice Hughes. A single dissenting opinion for the three cases was written by Mr. Justice McReynolds, with whom concurred Justices Van Devanter, Sutherland and Butler. So far as possible, the dissenting views will be presented in association with the relevant majority opinion, though we may here quote three paragraphs illustrative of the general minority attitude:

"Just men regard repudiation and spoliation of citizens by their sovereign with abhorrence; but we are asked to affirm that the Constitution has granted power to accomplish both. No definite delegation of such a power exists; and we cannot believe the farseeing framers, who labored with hope of establishing justice and securing the blessings of liberty, intended that the expected government should have authority to annihilate its own obligations and destroy the very rights which they were endeavoring to protect. Not only is there no permission for such actions; they are inhibited. And no plenitude of words can conform them to our charter. . . .

"The fundamental problem now presented is whether recent statutes passed by Congress in respect of money and credits, were designed to attain a legitimate end. Or whether, under the guise of pursuing a monetary policy, Congress really has inaugurated a plan primarily designed to destroy private obligations, repudiate national debts and drive into the Treasury all gold within the country, in exchange for inconvertible promises to pay, of much less value.

"Considering all the circumstances, we must conclude they show that the plan disclosed is of the latter description and its enforcement would deprive the parties before us of their rights under the Constitution. Consequently the Court should do what it can to afford adequate relief."

In dealing with the gold clauses in private obligations, the Chief Justice first considers their interpretation. He points out that earlier cases decided when gold was still available and paper at a discount did not deal with such a situation as that before the Court when gold is no longer available and there is a legislative prohibition against the enforcement of gold clauses, and then says of the clauses and the issue before the Court:

"We are of the opinion that the gold clauses now before us were not contracts for payment in gold coin as a commodity, or in bullion, but were contracts for the payment of money. The bonds were severally for the payment of one thousand dollars. We also think that, fairly construed, these clauses were intended to afford a definite standard or measure of value, and thus to protect against a depreciation of the currency and against the discharge of the obligation by a payment of lesser value than that prescribed. When these contracts were made they were not repugnant to any action of the Congress. In order to determine whether effect may now be given to the intention of the parties in the face of the action taken by the Congress, or the contracts may be satisfied by the payment dollar for dollar, in legal tender, as the Congress has now prescribed, it is necessary to consider (1) the power of the Congress to establish a monetary system and the necessary implications of that power; (2) the power of the Congress to invalidate the provisions of existing contracts which interfere with the exercise of its constitutional authority; and (3) whether the clauses in question do constitute such an interference as to bring them within the range of that power."

The fact that it is deemed necessary to go on to consider the power of Congress to abrogate the gold clause in these obligations would seem to indicate the assumption that they were in effect what is called "gold value" clauses entitling on their face the holder to get additional paper dollars on the reduced standard. Certainly this is not denied in that part of the majority opinion that deals with the interpretation of the clauses. The minority opinion quotes with acceptance the majority reference to the intention "to afford a definite standard or measure of value, and thus to protect against a depreciation of the currency," and adds: "Furthermore, they furnish means for computing the sum payable in currency if gold should become unattainable.'' The minority relies on the post Civil War cases for translating the obligation into one to pay as much paper on the new and reduced standard as would be the equivalent, in relation to gold, of the lesser number of paper dollars on the old and higher gold standard. While the majority do not explicitly accede to this, it seems inescapable that they accept it at least as an assumption. Mr. Justice Stone, in his concurring opinion in the Liberty Bond Case, says explicitly that the majority regard the gold clause in the private bonds as a gold-value clause.

Power of Congress to Change Currency.—In dealing with ''the power of Congress to establish a monetary system,'' the Chief Justice refers to the Legal Tender Cases and shows that changes in the currency may constitutionally defeat expectations under prior contracts. He is referring only to contracts not expressly designed to guard against such changes. He cites a case sustaining an embargo on the exit of coin from the Philippines for the proposition that, by virtue of the power of Congress to establish a uniform currency, ''there attach to the ownership of gold and silver those limitations which public policy may require by reason of their quality as legal tender and as a medium of exchange.'' The discussion under this caption is prefatory merely, and does not appear to meet with objection from the minority except by way of warning against any assumption that the power to prohibit the exportation of coins would authorize the destruction of coins without compensation.

Power of Congress to Invalidate Contracts.—The next topic is ''the power of the Congress to invalidate the provisions of existing contracts which interfere with the exercise of its constitutional authority.'' Congress has such a power, it is declared. This is supported by various decisions holding that parties cannot by contracting with each other deprive the legislature of power to regulate their conduct. ''The principle is not limited to the incidental effect of the exercise by the Congress of its constitutional authority. There is no consitutional ground for denying to the Congress the power expressly to prohibit and invalidate contracts although previously made, and valid when made, when they interfere with the carrying out of the policy it is free to adopt.'' Illustrations are drawn from contracts not allowed to stand in the way of rate regulation and the Employers' Liability Act. ''The same reasoning applies to the constitutional authority of the Congress to regulate the currency and to establish the monetary system of the country. If the gold clauses now before us interfere with the policy of the Congress in the exercise of that authority they cannot stand.''

Whether the minority object to these general observations or only to the application of them in the particular case is not wholly clear. The Chief Justice had insisted that the regulation of contracts may be a regulation of the currency. Mr. Justice McReynolds in dissent says that ''the real purpose was not 'to assure uniform value to the coins and currencies of the United States,' but to destroy certain valuable contract rights.'' He points out that depreciation of the standard dollar would not alone decrease ''the amount required to meet obligations containing gold clauses.'' Such depreciation would as to such obligations merely increase the number of dollars needed to pay them. ''General reduction of all debts could only be secured by first destroying the contracts evidenced by the gold clauses; and this the Resolution of June 5th undertook to accomplish. It was aimed directly at those contracts and had no definite relation to the power to issue bills or to coin or regulate the value of money.''

Gold Clauses in Relation to Monetary Policy.—This to some extent at least passes over to the final topic of the Chief Justice, which is ''the effect of the gold clauses in suit in relation to the monetary policy adopted by the Congress.'' This is considered under two alternative interpretations of the gold clauses. After repeating Congressional recitals as to hoarding and the tendency of capital to leave the country and the consequent effect on the currency system, the Chief Justice says that "it is apparent that if these promises were to be taken literally, as calling for actual payment in gold coin, they would be directly opposed to the policy of Congress, as they would be calculated to increase the demand for gold, to encourage hoarding, and to stimulate attempts at exportation of gold." If there were no outstanding gold clauses, he adds, no one would question the power of Congress to conserve gold and insure its command by the government. "And if the Congress would have that power in the absence of gold clauses, principles beyond dispute compel the conclusion that private parties, or States or municipalities, by making such contracts could not prevent or embarrass its exercise. In that view of the import of the gold clauses, their obstructive character is clear."

The opinion then turns to the other alternative and says that "if the clauses are treated as 'gold value' clauses, that is, as intended to set up a measure or standard of value if gold coin is not available, we think that they are still hostile to the policy of the Congress and hence subject to prohibition." Though the dollar had not been devalued at the time of the abrogation of the gold clauses, devaluation was in prospect, and Congress might do in anticipation of devaluation what it might do after devaluation had taken place. Devaluation put the domestic economy on a new basis. Receipts for taxes, fares and services furnished by gold-clause debtors would be in currency on the reduced standard. Severe dislocation of domestic economy would ensue if such debtors, instead of receiving and paying the same amount per dollar of charges or interest, took in but $1.00 when they had to pay out $1.69. "Congress has undertaken to establish a uniform currency, and parity between kinds of currency, and to make that currency, dollar for dollar, legal tender for the payment of debts. In the light of abundant experience, the Congress was entitled to choose such a uniform monetary system, and to reject a dual system, with respect to all obligations within the range of the exercise of its constitutional authority." This authority would be limited if parties by advance contract could create a situation in which the new dollars stand in different relations to different obligations.

Such is the argument. The contrast between a uniform system and a dual system is not elaborated. We had a dual system for a season after the Civil War. We had paper dollars not backed by gold. These paper dollars were legal tender for obligations calling only for dollars and not specifying a particular kind of dollar. The ratio between such dollars and gold dollars varied from day to day. Obligations calling for payment in gold dollars could be paid in gold dollars which could be bought for a greater amount of paper dollars or such obligations could be settled in that greater amount of paper dollars. There was thus not parity between different kinds of currency. In the present instance, Congress had reasons for devaluing the dollar and had constitutional power to do so. It might for practical considerations of domestic economy be deterred from such devaluation if the result were to be that gold-clause obligations had to be settled at the rate of $1.69 in available currency for each dollar described in the obligation. Therefore choice was fettered by the existence of such gold clauses unless they could be abrogated. Hence they might be abrogated in order to leave Congress free to exercise its monetary power untrammelled by them. This may be the argument implied in the contrast between the uniform and the dual system, or it may be a somewhat different argument that would lead to the same conclusion.

The minority's answer has already been given in part. They insist that the abrogation of the gold clause is not a regulation of the currency but a destruction of debts. If Congress may destroy these debts, it may destroy all debts by reducing the standard gold dollar "to one grain of gold, or brass or nickel or copper or lead.'' This seems to imply limitations on the power to change the standard dollar even though no gold clauses are involved. Congress in the exercise of its monetary power may not take property without due process of law. It could not acquire gold without paying for it. If, as the opinion of the Chief Justice apparently implies, ''the gold clause in the Liberty bonds withstood the June 5th Resolution notwithstanding the definite purpose to destroy it,'' then, says the minority: ''We think that in the circumstances Congress had no power to destroy the obligations of the gold clauses in private obligations. The attempt to do this was plain usurpation, arbitrary and oppressive.''

Gold Certificate Case.—The ruling and the reasons in the Gold Certificate case (Nortz *v.* United States, 294 U.S. 317) may be briefly stated. They were that the gold certificate holder suffered no damage by not getting gold because, if he had been paid gold, he would have to turn it back to the Government for currency on the reduced standard. His damages, therefore, at best were but nominal, and the Court of Claims has no jurisdiction to render a judgment for purely nominal damages. The minority say that the contracts were to return gold left on deposit, and that the Government, by forbidding one to receive and retain what it has promised to deliver, cannot thereby destroy the value of its promise. ''If an individual should undertake to annul or lessen his obligation by secreting or manipulating his assets with the intent to place them beyond the reach of creditors, the attempt would be denounced as fraudulent, wholly ineffective.'' The majority apparently reject the interpretation that the contract was to return gold left on deposit. The Chief Justice says that the gold certificates were currency and legal tender and not to be regarded as warehouse receipts. ''They were not contracts for a certain quantity of gold as a commodity. They called for dollars, not bullion.''

By insisting that what the plaintiff was entitled to by his contract was not gold, but gold coin, the majority look not to the value of gold but the value of gold coin to the person claiming it from the Treasury in return for gold certificates. To the plaintiff's insistence ''that gold had an intrinsic value and was bought and sold in the world markets,'' they answer that ''plaintiff had no right to resort to such markets.'' The point is made also that the dollar had not been devalued at the time when the plaintiff under compulsion presented his gold certificates for payment. ''The currency paid to the plaintiff for his gold certificates was then on a parity with that standard of value'' specified in the certificate. ''It cannot be said that, in receiving the currency on that basis, he sustained any actual loss.'' This leaves open the question whether there would be a recoverable loss if the dollar were devalued prior to the demand for return of the gold certificates.

Gold Clause in Liberty Bonds.—The case involving the gold clause in Liberty bonds is Perry *v.* United States (294 U.S. 330). The decision went on the same ground as that in the Gold Certificate Case. On that ground five Justices concurred. Mr. Justice Stone wrote a special concurring opinion, designed to indicate his unwillingness to pass judgment on the issue whether the gold clause in Liberty bonds could be abrogated and the issue whether under other circumstances holders of gold-clause Liberty bonds might prove damages for not being paid in dollars on the old gold standard nominated in the bond. For himself and Justices Brandeis, Roberts and Cardozo, Mr. Chief Justice Hughes declares that Congress is without power to repudiate its obligation by abrogating the gold clause in bonds issued by the United States. The four dissenters of course agree with this. Mr. Justice Stone does not clearly disagree, though he thinks that, if the gold clause is viewed as a gold value contract, the majority conclusion of no damage necessarily sanctions the abrogation of the gold clause, since if the contract is for gold value and not for gold coin, the inability to get or keep coin does not prevent a comparison of the new paper dollars with those promised and does not prevent a judgment that the new paper has less gold value than the old and that the bond holder suffers the difference.

Had the Chief Justice confined himself to the position that inability of the bondholder to get or keep gold kept him from suffering damage by getting paper to the amount that was given to those who had been compelled to turn in their gold, the opinion would be understandable and would add nothing to the Gold Certificate Case except that it does not matter that the gold-clause Liberty bonds were not due until after devaluation of the dollar whereas the gold certificates were called in before devaluation. This would mean that the Government, though constitutionally impotent to cancel or abrogate its promise to pay in gold coin of a designated standard of value, may nevertheless through its control over the use of gold and its power to reduce the gold content of the standard dollar, create a situation in which one entitled by government promise to gold dollars or paper dollars on the old standard is subject to having the value of the promise determined by the fact that his enjoyment of its fruits could constitutionally be curtailed through the power over the currency. This, however difficult to state or to conceive, is in effect what the decision holds in its application to the particular case at bar in the particular situation then existing. However, the opinion goes further and suggests qualifications which make its scope difficult if not impossible to ascertain.

The difficulty starts with the interpretation of the promise to pay ''in United States gold coin of the present standard of value'' which was at the time of the promise the old standard of 25.8 grains to the dollar. Of this promise the Chief Justice says: ''This obligation must be fairly construed. The '*present* standard of value' stood in contradistinction to a *lower* standard of value. The promise obviously was intended to afford protection against loss. That protection was sought to be secured by setting up a standard or measure of the Government's obligation. We think that the reasonable import of the promise is that it was intended to assure one who lent his money to the Government and took its bond that he would not suffer loss through depreciation of the medium of payment.''

This is susceptible of at least two meanings. The word ''loss'' involves a comparison between something higher and something lower. The opinion does not at this point state what it is comparing. If the comparison is between the dollars on the standard promised and the dollars on the lower standard given, it takes more dollars on the new standard than on the old to get the same equivalence with gold. As Mr. Justice Stone points out, if the contract is a gold-value contract, ''the Government has not prohibited the free use by the bondholder of the paper money equivalent of the gold clause obligation.'' The Chief Justice, however, emphasises that the gold coin promised is constitutionally capable of being seized for dollars on the reduced standard. So he must be comparing the paper dollars given with the paper dollars that could be obtained if the gold were proffered tentatively and then replaced by lawful equivalent in paper, which is the same number of dollars on the new basis as on the old. The new is lawfully made the equivalent of the old by the power to compel the exchange of gold for paper on the reduced gold basis.

Clearly enough the conclusion that the plaintiff has proven no damage is confined by the Chief Justice to the situation in which gold is withdrawn from circulation and there is ''a single monetary system with an established parity of all currency and coins.'' As to this restriction Mr. Justice Stone says: ''I am not persuaded that we should needlessly intimate any opinion that implies that the obligation may so operate, for example, as to interpose a serious obstacle to the adoption of measures for stabilization of the dollar, should Congress think it wise to accomplish that purpose by resumption of gold payments, in dollars of the present or any other gold content less than that specified in the gold clause, and by the re-establishment of a free market for gold and its free exportation.''

He adds that ''there is no occasion now to resolve doubts, which I entertain, with respect to these questions,'' and he suggests that they may become purely speculative by action of Congress restricting the privilege of suit upon its obligations. Perhaps we should not assume that the Chief Justice and those who concur in his opinion would necessarily find the other way on the question of damages if gold should get into circulation on a standard lower than that specified in gold clause bonds. Some other reason might fill the lack of the particular reason relied on here.

A similar possibility may be suggested with respect to another qualification in the opinion of the Court. After saying that the equivalent of the gold coin promised cannot be more than what the coin would be worth for purposes for which it may legally be used and referring to the single monetary system with an established parity of all currency and coins, the Chief Justice continues:

''And in view of the control of export and foreign exchange, and the restricted domestic use, the question of value, in relation to transactions legally available to the plaintiff, would require a consideration of the purchasing power of the dollars which the plaintiff could have received. Plaintiff has not shown, or attempted to show, that in relation to buying power he has sustained any loss whatever. On the contrary, in view of the adjustment of the internal economy to the single measure of value as established by the legislation of the Congress, and the universal availability and use throughout the country of the legal tender currency in meeting all engagements, the payment to the plaintiff of the amount which he demands would appear to constitute not a recoupment of loss in any proper sense but an unjustified enrichment.

''Plaintiff seeks to make his case solely upon the theory that by reason of the change in the weight of the dollar he is entitled to one dollar and sixty-nine cents in the present currency for every dollar promised by the bond, regardless of any actual loss he has suffered with respect to any transaction in which his dollars may be used. We think that position is untenable.''

Here there is in addition a hint that the Court might find differently on the question of damages if there should be an inflation that sends prices soaring. This offers another possible interpretation of the comparison the Chief Justice has in mind when he says that the promise meant that the bondholder should not suffer loss through depreciation of the currency. He may take the promise to be that it must be fulfilled by some medium of payment that will buy as much per unit as could be bought by the medium with which the bondholder loaned his money to the Government. This has difficulties too complicated to be explored here. In so far as we have gone in for analysis of the various opinions, it has been, not with the aim of criticism, but to help understanding or to show why understanding is difficult or impossible. Those who feel confused by the abstracts here given may be moved to sympathy rather than to condemnation if they turn to the official opinions for light.

DELEGATION OF LEGISLATIVE POWER

Questions of Degree.—Although never before the cases to be reviewed had the Supreme Court declared unconstitutional any act of Congress for excessive delegation of legislative power to the executive, the issue had often been raised and the opinions had justified various delegations on the ground that the substance of the policy of the legislation had come from Congress and that what was left to the executive was mere matter of application or of filling in details. Therefore it was clear enough that a statute which itself does too little and which permits the executive or administrative officers to do too much would be held void. The question in each case is one of degree, and the extent of discretion that may be conferred varies with the field on which the legislation and administration impinge. In matters touching foreign affairs such as embargoes and tariffs, a fairly wide latitude has been left to executive determination. In licensing radio transmission a Commission has been allowed to determine what "public convenience, interest, or necessity requires." The situation involved was thought to be one that precluded the laying down of more definite standards. In this realm of the law each case must stand pretty much on its own legs.

Contraband Oil.—The delegation condemned in Panama Refining Co. *v.* Ryan (293 U.S. 388) was that in section 9 (c) of the National Industrial Recovery Act which authorized the President "to prohibit the transportation in interstate and foreign commerce of petroleum and the products thereof produced or withdrawn from storage in excess of the amount permitted to be produced or withdrawn from storage by any state law or valid regulation" of any state authority. The particular section laid down no conditions whatever as a guide to the President's choice. Mr. Justice Cardozo in dissenting found some general guides in the preamble and general purpose of the Recovery Act. For the rest of the Court, Mr. Chief Justice Hughes found the ideals of the preamble to be amorphous and contradictory. Mr. Justice Cardozo thought that the uncertainty as to what the laws of the states would do made it imperative for Congress to give to the President a broad discretion. Mr. Chief Justice Hughes said that "if section 9 (c) were held valid, it would be idle to pretend that anything would be left of limitations upon the power of Congress to delegate its law-making function."

An additional reason for condemning the delegation was that "the executive order contains no finding, no statement of the grounds of the President's action in enacting the prohibition." In elaboration the opinion continues: "If it could be said that from the four corners of the statute any possible inference could be drawn of particular circumstances or conditions which were to govern the exercise of the authority conferred, the President could not act validly without having regard to those circumstances and conditions. And findings by him as to the existence of the required basis of his action would be necessary to sustain that action, for otherwise the case would still be one of an unfettered discretion as the qualification of authority would be ineffectual."

Mr. Justice Cardozo answers that "the will to act being declared, the law presumes that the declaration was preceded by due inquiry and that it was rooted in sufficient grounds." He would apply to the present order the rule obtaining with respect to calling out the militia and to some other matters. The Chief Justice replies that "we are not dealing with action which, appropriately belonging to the executive province, is not the subject of judicial review, or with the presumptions attaching to executive action." The field of action is likened to that in which regulatory commissions give orders which, to be valid, must be preceded by a hearing and findings. Mr. Justice Cardozo was alone in dissent.

Codes of Fair Competition.—In Schechter *v.* United States (295 U.S. 495) the Court was unanimous in condemning the delegation in section 3 of the Recovery Act under which "Codes of Fair Competition" were authorized. As the Chief Justice points out, the delegation here differs from that with respect to contraband oil because "there, the subject of the statutory prohibition was defined." Here the question "is whether there is any adequate definition of the subject to which the codes are to be addressed." The general declaration of policy in section 1 of the Act was found to be no more of a guide here than for the policy in the section with respect to interstate transportation of petroleum. Restrictions in section 3 against code provisions permitting monopolistic practices were said to "leave virtually untouched the field of policy envisaged by section 1, and in that wide field of legislative possibilities the proponents of a code, refraining from monopolistic designs, may roam at will and the President may approve or disapprove their proposals as he sees fit.'' What is called a finding that the code ''will tend to effectuate the policy of this title'' is said to be ''really but a statement of an opinion as to the general effect upon the promotion of trade or industry of a scheme of laws.''

The codes were called ''codes of fair competition,'' but ''fair competition'' was held to have no meaning in the law. ''Fair competition'' is not the antithesis of ''unfair methods of competition'' with which the Federal Trade Commission may deal. The Rocovery Act and the provisions of the Live Poultry Code are clearly designed to go far beyond forbidding methods of unfair competition as they are worked out in detail by the Trade Commission with the aid of a careful procedure. The Codes cannot be sustained because persons affected may participate in their making, since they derive their force from Presidential promulgation and are codes of law. Unwarranted delegation cannot be justified by the existence of an emergency, since ''extraordinary conditions do not create or enlarge constitutional power.'' The opinion on the point of delegation concludes by saying:

''Section 3 of the Recovery Act is without precedent. It supplies no standards for any trade, industry or activity. It does not undertake to prescribe rules of conduct to be applied to particular states of fact determined by appropriate administrative procedure. Instead of prescribing rules of conduct, it authorizes the making of codes to prescribe them. For that legislative undertaking, § 3 sets up no standards, aside from the statement of the general aims of rehabilitation, correction and expansion described in section one. In view of the scope of that broad declaration, and of the nature of the few restrictions that are imposed, the discretion of the President, in approving or prescribing codes and thus enacting laws for the government of trade and industry throughout the country, is virtually unfettered. We think that the code-making authority thus conferred is an unconstitutional delegation of legislative power.''

THE FIFTH AMENDMENT—DUE PROCESS, PENSIONS AND FARMER BANKRUPTCIES

Due Process of Law Issue.—The Railroad Retirement Act was declared unconstitutional in Railroad Retirement Board *v.* Alton R. Co. (295 U.S. 330) on the two grounds that it denied due process of law and was not a regulation of interstate commerce. The due-process issue was first considered in the majority opinion of Mr. Justice Roberts. Concurring with him were Justices Van Devanter, McReynolds, Sutherland and Butler. The opinion for the minority was written by Mr. Chief Justice Hughes, with whom concurred Justices Brandeis, Stone and Cardozo. On one point the minority agreed with the majority. They conceded that it is abitrary and therefore a denial of due process to compel the carriers to pay pensions to former employees whose service had forever terminated prior to the act. The provision of the statute was limited to those employers who had left the service within a year prior to the act. Its constitutionality was urged by the Government on the ground that it would tend to dissuade the carriers from refusing to re-employ such men because of a desire not to restore them to the eligible list, but this alleged justification was deemed insufficient.

Naturally the majority could not accept this justification, for they insisted that it was arbitrary and unreasonable to count service of employees prior to the statute in determining the amount of a pension to be paid after service subsequent to the statute. In general the due-process objections found by the majority may be grouped under two heads: economic retroactivity, and the pooling of all carriers and all employees in payments and expenditures to and from a single fund. In so far as the statute from an economic standpoint would operate wholly prospectively and give pensions only upon retirement at a suitable age after continuous service, it was recognized as not open to due-process condemnation. Such operation, however, was held to be inseparable from the specifically adjudicated invalid features of the law so that it could not be assumed that Congress would have wished the enforcement of the approved without the condemned. Moreover, the whole statute fell because it made no provision for confining the responsibility of each carrier to its own employees as the Court thought requisite. Of course the whole statute fell also on the ground that it was not within the commerce power. The importance of what the Court would have approved on due-process grounds lies in its bearing upon what type of state-imposed compulsory pension plans could anticipate judicial sanction.

Pensions.—The ground on which it is insisted that services prior to the statute may not be counted in determining the amount of a pension or the time when the right to a pension would accrue is that those past services had already been fully compensated for when the past service was performed and that any additional compensation because of them would be a naked expropriation of the property of the carriers to make a gift to the employees. The argument made mention of the fact that in many cases the past services would have been with a different carrier than the employer subsequent to the statute, but the objection does not seem to be confined to such situations. In all cases it would be true that the employees made no contributions to the fund for services prior to the statute. It would be true also that the carriers had not prior to the statute made accumulations in anticipation thereof except as they had done so in connection with their voluntary pension plans which were much more restricted in operation than the Railroad Retirement Act. These facts were adduced as an additional objection to the economic retroactivity of the statute.

For the minority, the Chief Justice says that ''it seems to be assumed that Congress could compel the dismissal of aged employees, and if it has that power and also has the power to establish a pension system,'' he finds no constitutional reason why it is ''impossible to provide for employees who were thus severed from the service.'' The only question is: what is the fair basis for computing a retirement allowance? In favor of the conclusion that the plan adopted is not destitute of rational support, he says:

''Congress could have provided for a retirement allowance in a flat sum, or could have based it upon the amount of compensation which the employee was receiving at the time of retirement, or upon the amount he had received for the preceding year or his average compensation of a longer time. Selecting a period not to exceed 30 years, or the period of service prior to age 65, merely gives a measure for the computation of the retirement allowance. It is in no proper sense a payment for the prior service, any more than would be the fixing of the allowance at a flat figure or on the basis of the last compensation received. The result in dollars and cents might not vary to any great extent whatever method of calculation was chosen.

''The power committed to Congress to govern interstate commerce does not require that its government should be wise, much less that it should be perfect. The power implies a broad discretion and thus permits a wide range even of mistakes. Expert discussion of pension plans reveals different views of the manner in which they should be set up and a close study of advisable methods is in progress. It is not our province to enter that field, and I am not persuaded that Congress in entering it for the purpose of regulating interstate carriers, has transcended the limits of the authority which the Constitution confers.''

In speaking of the majority's approval of a prospective plan, we qualified it by confining it to one which gives pensions only upon retirement at a suitable age after continuous service. How far this qualification is essential is not wholly clear. The majority opinion criticises the provisions that give a pension at age 65 to persons who have long since left the employment and that give a pension after 30 years of service irrespective of age and of personal fitness to continue, even though for the former the amount is based upon the number of years of actual railroad service and for the latter the annuity is reduced by a percentage for each year that the recipient lacks the age of 65. Such results are said not to be "the indicia of a reasonable regulation of commerce" and not to be "cited in favor of this pension system as an aid to economy, efficiency and safety." In these expressions there is the flavor of the commerce clause considerations to be presented later. Moreover the opinion on these points draws illustrations from the results in the case of persons who count service prior to the statute. Thus it may not be certain that such features, if wholly prospective, would be condemned in a state statute.

In the dissenting opinion, the Chief Justice does not deal specifically with the provision that would give at the age of 65 a pension based on service that had previously terminated, though his dissent seems to extend to the majority conclusion against such an award. As to the award at 65 or after 30 years of service which the majority criticised as not duly related to economy, efficiency and safety, he says: "An examination of pension plans in operation reveals a variety of possible methods, and Congress was entitled to make its choice. As a basis for the allowance, Congress could select either age or length of service or both. In the selection of any age, or any period of service, anomalies would inevitably occur in particular applications. Extreme illustrations can always be given of the application of regulations which require the drawing of a line with respect to age, time, distances, weights, sizes, etc. To deny the right to select such criteria, or to make scientific precision a criterion of constitutional authority, would be to make impossible the practical exercise of power. . . . Whatever may be said of the capacity of many men after they have attained 65 years, the fixing of that age or a period of 30 years' service, or a combination of both, for general application, cannot be regarded as an arbitrary choice for railroad employees."

The remaining bone of contention was the application of the pooling principle. The dissent invoked precedents sanctioning this principle in workmen's compensation laws, in depositors' guarantee laws, in the division of joint earnings of carriers and in the recapture of excess earnings, and insisted that with respect to pensions also Congress may treat all interstate railroads and all their employees as component parts of a unitary enterprise. These examples of pooling were differentiated by the majority, and it was pointed out that in a number of ways the pooling plan of the Railroad Retirement Act would impose burdens on carriers incommensurate with the payments to their own employees, so that some would to an extent be keepers of their neighbors' retired workmen. The illustrations of such inequality appear to be incidents of the fact that the particular plan provides for payments partly on the basis of past services or contains some actuarial shortcomings, but the opinion asserts generally that "the provisions of the Act which disregard the private and separate ownership of the several respondents, treat them all as a single employer, and pool all their assets regardless of their individual obligations and the varying conditions found in their respective enterprises, cannot be justified as consistent with due process."

Farm Mortgages.—The Frazier-Lemke Act was condemned by a unanimous court in Louisville Bank *v.* Radford (295 U.S. 555) in an opinion by Mr. Justice Brandeis. The act defeated the substantive interest of the mortgagee in his lien by permitting the borrower to remain in possession upon payment of a rental and by giving the mortgagor a chance to buy the property at his discretion at a value fixed by an appraisal. The mortgagor thus remaining in possession was not compelled to buy or to announce a determination to buy or not to buy at some future time. He could within a five-year period pick the time to buy and therefore the time to get a reappraisal that would fix the purchase price. Meanwhile the mortgagee could not accept other offers. He could not wait for better prices and then force an appraisal and sale. His mortgagor could wait for lower prices and then force an appraisal and a sale to himself even though the mortgagee should be ready to bid himself at a higher price as on the usual judicial sale. From the rental had to come payments for insurance and taxes which in the case at bar took a third thereof. Thus in its moratorium features the act left to the mortgagee no such safeguards as those provided by the Minnesota Mortgage Moratorium Act, and it went beyond delay in enforcement of ultimate rights to a destruction thereof in return for a payment fixed by an appraisal.

Though the Court was asked to hold that it is not within the bankruptcy power to abridge a mortgagee's rights in specific property, this issue was left unsettled. Mr. Justice Brandeis notes that this is the first time that any bankruptcy act has attempted to do so, but he suggests that there may be a difference between such power over property pledged as security after the date of a bankruptcy statute and a similar power over property pledged before. Here the statute was explicitly confined to debts existing at the time of its enactment. This retroactive application was declared to be forbidden by the Fifth Amendment, but we are left in doubt as to what clause of that Amendment is intended to be adduced by the opinion. The briefs for the mortgagee invoke the due process clause. Mr. Justice Brandeis notes that the bankruptcy power, like other national powers, is restricted by the Fifth Amendment and he cites in a foot-note a list of cases that includes some clearly premised on due process alone. He enumerates the "property rights recognized by the law of Kentucky" that the act, as here applied, has taken from the mortgagee, but he nowhere uses the words "without due process of law."

The ground of decision is not stated until the very end of the opinion. The preceding discussion consists of recital, analysis, differentiation, and the story of mortgage law and bankruptcy and moratorium legislation. Then it is said: "Radford contends further that the changes in the mortgagee's rights in the property, even if substantial, are not arbitrary and unreasonable, because they are made for a permissible public purpose."

After outlining the arguments on behalf of this contention, and saying that they need not be considered, the opinion concludes as follows: "The province of the Court is limited to deciding whether the Frazier-Lemke Act as applied has taken from the Bank without compensation, and given to Radford, rights in specific property which are of substantial value. . . . As we conclude that the Act as applied has done so, we must hold it void. For the Fifth Amendment commands that, however great the Nation's need, private property shall not be thus taken even for a wholly public use without just compensation. If the public interest requires, and permits, the taking of property of individual mortgagees in order to relieve the necessities of individual mortgagors, resort must be had to proceedings by eminent domain; so that, through taxation, the burden of the relief afforded in the public interest may be borne by the public."

Such a treatment of the technical legal problem invites speculation as to why it was chosen. The decision could not be rested on the clause forbidding the impairment of the obligation of contracts, because that clause restricts only state action and not national action. Mr. Justice Brandeis could not be inquiring whether there was in fact involved a taking for public use under the power of eminent domain and whether there was just compensation, for in an earlier part of his opinion he notes that "the Frazier-Lemke Act does not purport to exercise the right of eminent domain." Yet why does he introduce at the close the eminent domain idea, and why does he always refer to the Fifth Amendment generally without specification of the due process clause? By not mentioning due process, the opinion may seek to save itself from being adduced in cases involving statutes merely regulating conduct and not directly transferring property rights from one man to another. Or the aroma of eminent domain may be exhaled with design to suggest the wider use of that power for collective control in favor of ordering the relations between debtors and creditors. These are but pure guesses, and we must wait for anything approaching knowledge or insight until we see what use is made of this opinion in future cases.

THE SCOPE OF THE COMMERCE POWER—PENSIONS AND CODES

Railroad Pensions.—The second ground of decision in Railroad Retirement Board *v.* Alton R. Co. (295 U.S. 330) is that the Railroad Retirement Act was not a regulation of interstate commerce. Though in the majority opinion this conclusion is reinforced by reference to various features of the particular statute already condemned under the due process clause, Mr. Justice Roberts says that the statute "is also bad for another reason which goes to the heart of the law, even if it could survive the loss of the unconstitutional features which we have discussed." To the minority this means that no possible revision could bring a compulsory pension plan within the commerce power. The Chief Justice says: "But after discussing these matters, the majority finally raise a barrier against all legislative action of this nature by declaring that the subject matter itself lies beyond the reach of the congressional authority to regulate interstate commerce. In that view, no matter how suitably limited a pension act for railroad employees might be with respect to the persons to be benefited, or how appropriate the measure of retirement allowances, or how sound actuarily the plan, or how well adjusted the burden, still under this decision Congress would not be at liberty to enact such a measure. That is a conclusion of such serious and far-reaching importance that it overshadows all other questions raised by the Act. Indeed, it makes their discussion superfluous. The final objection goes, as the opinion states, 'to the heart of the law, even if it could survive the loss of the unconstitutional features' which the opinion perceives. I think that the conclusion thus reached is a departure from sound principles and places an unwarranted limitation upon the commerce clause of the Constitution."

The majority lay the foundation for their conclusion by saying that "when the question is whether the Congress has properly exercised a granted power the inquiry is whether the means adopted bear any reasonable relation to the ostensible exertion of the power." They treat the commerce question as one whether a compulsory pension plan imposed by statute will promote "efficiency and safety in interstate transportation." Their answer to the question concludes as follows: "We think it cannot be denied, and, indeed, is in effect admitted, that the sole reliance of the petitioners is upon the theory that contentment and assurance of security are the major purposes of the Act. We cannot agree that these ends if dictated by statute, and not voluntarily extended by the employer, encourage loyalty and continuity of service. We feel bound to hold that a pension plan thus imposed is in no proper sense a regulation of the activity of interstate transportation. It is an attempt for social ends to impose by sheer fiat non-contractual incidents upon the relation of employer and employee, not as a rule or regulation of commerce and transportation between the States, but as a means of assuring a particular class of employees against old age dependency. This is neither a necessary nor an appropriate rule or regulation affecting the due fulfilment of the railroads' duty to serve the public in interstate transportation."

In reaching this answer the majority reject the arguments that safety and efficiency are promoted by the abolition of excessive superannuation and by the improvement of morale.

They adduce figures to show that during a period "of alleged increasing superannuation" of railroad employees, the railroad enterprise has been conducted with increasing safety and efficiency. In dissenting, the Chief Justice says that the question is a debatable one upon which Congress was entitled to form its own judgment. The fact of improvement does not establish that further improvement is not needed or obtainable. On the issue of economy, the majority say that the retirement of aged employees will mean no saving, since under the prevailing wage structure of the roads, the "compensation is based not on age but upon the nature of the duties performed." To this is added the following argument founded on the particular statute at bar: "When to these considerations is added that, as heretofore said, the Act disregards fitness to work, pensions the worker who retires at his option before any suggested superannuation, irrespective of skill or ability, pensions those who are presently compelled by the law to retire, irrespective of their fitness to labor, and grants annuities to those who are discharged for dishonesty or gross carelessness, it becomes perfectly clear that, though the plan may bring about the social benefits mentioned in section 2a, it has and can have no relation to the promotion of efficiency, economy or safety by separating the unfit from the industry."

These defects of the particular statute and the contention that the facts fail to show any necessity for the compulsory retirement of aged employees seem to be invoked merely as makeweights, for the opinion continues on the following broader and more inclusive lines: "If these ends demand the elimination of aged employees, their retirement from the service would suffice to accomplish the object. For these purposes the prescription of a pension for those dropped from service is wholly irrelevant. The petitioners, conscious of the truth of this statement, endeavor to avoid its force by the argument that social and humanitarian considerations demand the support of the retired employee. They assert that it would be unthinkable to retire a man without pension and add that attempted separation of retirement and pensions is unreal in any practical sense, since it would be impossible to require carriers to cast old workers aside without means of support. The supposed impossibility arises from a failure to distinguish constitutional power from social desirability. The relation of retirement to safety and efficiency is distinct from the relation of a pension to the same ends, and the two relationships are not to be confused."

This majority position is summarized in the dissenting opinion in the following fashion: "Congress may, indeed, it seems to be assumed, compel the elimination of aged employees. A retirement act for that purpose might be passed. But not a pension act. The Government's power is conceived to be limited to a requirement that the railroads dismiss their superannuated employees, throwing them out helpless, without any reasonable provision for their protection."

The answer is given as follows: "The argument pays insufficient attention to the responsibilities which inhere in the carriers' enterprise. Those responsibilities, growing out of their relation to their employees, cannot be regarded as confined to the contractual engagement. The range of existing Federal regulation of interstate carriers affords many illustrations of the imposition upon the employer-employee relation of non-contractual incidents for social ends. A close analogy to the provision of a pension plan is suggested by the familiar examples of compensation acts. . . .

"The fundamental consideration which supports this type of legislation is that industry should take care of its human wastage, whether that is due to accident or age. That view cannot be dismissed as arbitrary or capricious. It is a reasoned conviction based upon abundant experience. The expression of that conviction in law is regulation. When expressed in the government of interstate carriers, with respect to their employees likewise engaged in interstate commerce, it is a regulation of that commerce. As such, so far as the subject matter is concerned, the commerce clause should be held applicable.''

The majority dismiss the precedents of employers' liability acts and workmen's compensation acts because ''they have a direct and intimate connection with the actual operation of the roads,'' and for the following added reason: ''Workmen's compensation laws deal with existing rights and liabilities by readjusting old benefits and burdens incident to the relation of employer and employee. Before their adoption the employer was bound to provide a fund to answer the lawful claims of his employees; the change is merely in the required disbursement of that fund in consequence of the recognition that the industry should compensate for injuries occurring with or without fault. The Act with which we are concerned seeks to attach to the relation of employer and employee a new incident, without reference to any existing obligation or legal liability, solely in the interest of the employee, with no regard to the conduct of the business, or its safety or efficiency, but purely for social ends.''

This analysis, differentiation and characterization move the Chief Justice to the following reply: ''The effort to dispose of the analogy serves only to make it the more impressive. Compensation acts are said to be a response to the demands which inhere in the development of industry, requiring new measures for the protection of employees. But pension measures are a similar response. If Congress may supply a uniform rule in the one case, why not in the other? If affording certainty of protection is deemed to be an aid to efficiency, why should that consideration be ruled out with respect to retirement allowances and be admitted to support compensation allowances for accidents which happen in the absence of fault? Compensation acts do not simply readjust old burdens and benefits. They add new ones, outside and beyond former burdens and benefits, and thus in truth add a new incident to the relation of employer and employee.''

The debate continues on the question whether the assurance of a pension upon retirement will improve the morale of workers and therefore the efficiency of their work. The majority find a sharp contrast between voluntary plans inaugurated by the carriers and conditioned on continuity of service and a plan imposed on the carrier by legislation and not subject to conditions chosen by the carrier. The compulsory plan makes for gratitude to Congress not to the employer. The minority say that morale comes from the secure assurance of a pension rather than from the source from which the security proceeds. They point to the insecurity of voluntary plans as a drawback. They insist that the fact that many carriers have instituted voluntary plans shows that they regard pensions as an incident of the service and not a thing apart. The majority say that the carriers by voluntary action cannot enlarge the meaning of the due process and commerce clauses of the Constitution. Legislative assurance of a pension may ''foster a contented mind on the part of the employee,'' but so also would legislative assurance of ''provision for free medical attendance and nursing, for clothing, for food, for housing, for the education of children, and a hundred other matters'' which ''might with equal propriety be proposed as tending to relieve the employee of mental strain and worry.'' All these are alike in principle. The statute requires the carriers to distribute largess among retired employees, and this is not a regulation of the commerce in which the carriers and their employees are engaged.

The Commerce Question in the Schechter Case.—The commerce question in Schechter *v.* United States (295 U.S. 495) was whether Congress might itself directly regulate the hours and wages of employees and the selling practices of a concern that acquired within the state articles that had come in from outside, processed them and sold them exclusively to buyers within the state. The opinion of the Chief Justice for a unanimous court declares that ''in determining how far the Federal Government may go in controlling intrastate transactions upon the ground that they 'affect' interstate commerce, there is a necessary and well-established distinction between direct and indirect effects.'' To this is added that ''the precise line can be drawn only as individual cases arise, but the distinction is clear in principle.'' The distinction must be ''recognized as a fundamental one, essential to the maintenance of our constitutional system,'' for otherwise, ''there would be virtually no limit to the Federal power, and for all practical purposes we should have a completely centralized government.'' Since most local transactions affect interstate commerce to some degree, the mere fact of some such effect cannot bring them within the national commerce power. Congress may regulate only those local matters that affect interstate commerce directly.

The reason why this distinction must be observed is that otherwise Congress might take substantially everything away from state control. The application of the distinction in the case at bar is guided by the same considerations that make the distinction an essential one. After saying that the wages and hours of employees in the defendants' local business ''have no direct relation to interstate commerce,'' the Chief Justice adds by way of reason that ''the question of how many hours these employees should work and what they should be paid differs in no essential respect from similar questions in other local businesses which handle commodities brought into a State and there dealt in as part of its internal commerce.'' If these wages and hours could be regulated by the Federal Government ''because of their relation to cost and prices and their indirect effect upon interstate commerce, it would seem that a similar control might be exerted over other elements of cost, also affecting prices, such as the number of employees, rents, advertising, methods of doing business, etc.'' Furthermore, ''all the processes of production that enter into cost could likewise be controlled.'' So the real reason why the effect here is found to be indirect is that if it were deemed direct, Congress might supersede state power to such an extent that there would be little left of the Federal system and the reserved powers of the states.

To an argument that states are deterred from establishing high labor standards in the belief that ''unless similar action is taken generally, commerce will be diverted from the States adopting such standards, and that this fear of diversion has led to demands for Federal legislation on the subject of wages and hours,'' the Chief Justice says that the implication is that the Federal authority should be deemed to extend to the control of wages and hours ''in intrastate trade and industry generally throughout the country, thus overriding the authority of the States to deal with domestic problems arising from labor conditions in their internal commerce'' and then replies: ''It is not the province of the Court to consider the economic advantages or disadvantages of such a centralized system. It is sufficient to say that the Federal Constitution does not provide for it. Our growth and development have called for wide use of the commerce power of the Federal Government in its control over the expanded activities of interstate commerce and in protecting that commerce from burdens, interferences and conspiracies to restrain and monopolize it. But the authority of the Federal Government may not be pushed to such an extreme as to destroy the distinction, which the commerce clause itself establishes, between commerce 'among the several States' and the internal commerce of a State.''

The contention that the fact of the widespread depression made it of great importance to maintain ''wage distributions which would provide the necessary stimulus in starting 'the cumulative forces making for expanding commercial activity' '' is answered by saying: ''Without in any way disparaging this motive, it is enough to say that the recuperative efforts of the Federal Government must be made in a manner consistent with the authority granted by the Constitution.'' This contention was akin to or a part of the argument made more generally in favor of the statute as an emergency measure. To that argument the Chief Justice answered: ''Undoubtedly, the conditions to which power is addressed are always to be considered when the exercise of power is challenged. Extraordinary conditions may call for extraordinary remedies. But the argument necessarily stops short of an attempt to justify action which lies outside the sphere of constitutional authority. Extraordinary conditions do not create or enlarge constitutional power.''

Code Provisions.—In addition to the wages and hours provisions before the Court, there were counts involving violation of the code provisions as to ''straight killing.'' The offense consisted of permitting customers to make ''selections of individual chickens taken from particular coops and half-coops.'' As to this and some other practices, the Chief Justice declared: ''Whether or not this practice is good or bad for the local trade, its effect, if any, upon interstate commerce was only indirect. The same may be said of violations of the code by intrastate transactions consisting of the sale 'of an unfit chicken' and of sales which were not in accord with the ordinances of the City of New York. The requirement of reports as to prices and volumes of defendants' sales was incident to the effort to control their intrastate business.''

The concurring opinion of Mr. Justice Cardozo, in which Mr. Justice Stone joined, dealt mainly with the issue of delegation, already considered. On the commerce question there was agreement that the wages and hours of labor of employees engaged in local processing and local sales were too remote from interstate commerce to be subject to national power. These provisions were said to be ''essential features of the plan, its very bone and sinew,'' so that with these annulled ''there is no opportunity . . . for the severance of the infected parts in the hope of saving the remainder.'' This means that the concurring opinion does not pass on the relation of the selling practices to interstate commerce, but says merely that the whole code must fall when its major features are condemned.

The bearing of the Schechter Case upon other possible applications of the commerce power depends upon inferences to be drawn from the application of the judgment to the situation before the court rather than upon any definite criteria announced in the opinion. As the Chief Justice says, the precise line between direct and indirect effects ''can be drawn only as individual cases arise.'' Situations sufficiently different from that in the Schechter Case may receive a different characterization from the Court. The Schechter ruling affords a datum on one side of the line, but does not mark with definiteness where the line will ultimately be drawn. More light may be expected soon from decisions that will result from attempted enforcement of the Guffey Coal Conservation Act and the Wagner-Connery Labor Relations Act.

THE "RUN-OF-THE-MINE" WORK OF THE SUPREME COURT

The concurrence in a single term of decisions on novel and major issues that attract wide public notice and have important immediate repercussions in the realm of politics should not put out of mind the fact that the normal run-of-the-mine product of the judicial labors continues year by year to restrict and direct the lines of governmental action. The interpretation and application of statutes, often superseded by later enactments, may impose more onerous toil during the term than is required for disposing of constitutional issues. The statutory problems may be of concern primarily or even exclusively to individual litigants. Many constitutional decisions turn on a judgment of the peculiarities of the particular situation to which a statute is being applied. No adequate picture of the work of the Supreme Court in umpiring public and private disputes can be presented by such selections as we are necessarily confined to here. The sampling that is to follow will, however, give some indication of the variety of issues that come before the Court and the range of interests that its decisions affect.

GOVERNMENTAL AND OFFICIAL POWERS AND IMMUNITIES

Power of Congress to Punish for Contempt.—The power of the two houses of Congress to punish for contempt was held in Jurney *v.* MacCracken (294 U.S. 125) to extend to punishment for failure to produce evidence in obedience to a valid order, although the default was no longer continuing and the evidence had since been produced or the production of it was no longer possible. Mr. MacCracken had, upon his initial refusal, claimed that some of the papers asked for were privileged. Later he produced all the documents within his control, but in the meantime some had been taken from him by his clients. In this state of facts he contended that the contempt proceedings were solely for the purpose of punishment and could not aid the Senate in securing information. The Court answered that the issue has to do, ''not with an extension of Congressional privilege, but with the vindication of the established privilege of requiring the production of evidence.'' The sword of such contempt proceedings with consequent punishment to be anticipated for future disobediance may move a possible recalcitrant to acquiescence. The case involved no new issues as to the power of legislative chambers to compel testimony and the production of documents. The fact that disobedience may be punished as a crime was held not to impair the legislative power over contempts.

Immunity of Congressmen.—Article 1, section 6, clause 1 of the Constitution provides that Senators and Representatives of the United States ''shall in all cases except treason, felony and breach of the peace be privileged from arrest during their attendance at the sessions of the respective houses, and in going to and returning from the same.'' The late Senator Long of Louisiana, when sued for libel by Colonel Ansell in the Supreme Court of the District of Columbia, contended that this clause protected him from subjection to service of civil process, but briefly and unanimously the Supreme Court in Long *v.* Ansell (293 U.S. 76) held the contrary. The privilege of freedom of arrest was said to be confined to the terms in which it was given by the Constitution. It is not to be confused with the common law rule that makes witnesses and parties and attorneys immune from service in one suit while engaged in prosecuting another, for this is a rule of practice ''founded upon the needs of the court, not upon the convenience or preference of the individuals concerned.''

President's Power of Removal.—Some years ago in Myers *v.* United States (272 U.S. 52) a divided Supreme Court held that Congress could not restrict the power of the President to remove first-class postmasters. The opinion of Mr. Chief Justice Taft indicated clearly that the same rule would apply to members of various commissions exercising quasi-legislative and quasi-judicial functions. Humphrey's Executor *v.* United States (295 U.S. 602) holds the contrary unanimously and denies to the President the power to remove a member of the Federal Trade Commission for other causes than those specified in the statute as a basis for removal. The statutory specification of certain causes is declared to be equivalent to a prohibition of removal for other causes. The opinion makes clear that it applies to members of the Interstate Commerce Commission and the Court of Claims, but leaves the question of other applications for future determination if occasion arises. It does not question the illimitable power of removal of distinctly executive officers and others who are to act in subordination to the President. From these are distinguished the members of quasi-legislative and quasi-judicial boards designed by Congress to exercise independent functions free from subordination to or coercion by the Chief Executive.

COMMERCE-CLAUSE RESTRICTIONS ON STATE POWER

Interstate Transportation of Products.—Only one alleged conflict between state police power and the commerce clause came before the Court during the term. This was in Baldwin *v.* Selig (294 U.S. 511) which applied familiar doctrine in holding that a state cannot forbid the sale in the original package of milk from other states that was there bought for a price less than the established price for purchase of milk within the state, and pushed familiar doctrine one step farther in holding that the statute was equally inapplicable to sales after the original package had been broken. The case has in some quarters been misunderstood and been thought to indicate a general disposition to abandon the original-package test of the time when the police measures of the state of destination may apply to products of extra-state origin. The holding is more narrow. The significant point is that the statute picked a fact in another state as the criterion of the lawfulness of conduct within the state. A state may not discriminate against goods from sister states even though the discrimination does not impinge until after the goods have ceased to be in the original package. So it is here held that the state may not at any time protect itself from extra-state competition by a ban on local sale of extra-state products because they were bought outside the state for less than products of local origin may be bought within the state.

The decision on this point does not apply to the imposition of criteria relating to the intrinsic quality of the products. As to those, the original-package test still marks the boundary line. The labor policies of another state, however, could not be the test of marketability at any time of products sent out therefrom. The decision suggests the interesting question whether Congress might do or permit the state of destination to do what that state may not do unaided. These questions will soon arise under acts of Congress applying to the products of prison labor the types of embargo that the Wilson Act and the Webb-Kenyon Act applied to intoxicating liquor. Unless Congress may do this, there is a vacuum in governmental authority created by a Federal system which purported merely to give to Congress power theretofore possessed by the several states. Such a vacuum is the result of the first Child Labor Case which denied to Congress the power to forbid the interstate transportation of products from factories in which child labor is employed. The vacuum will be expanded if it is held that the prison-labor statutes may not constitutionally achieve their desired end.

Commerce Clause and State Taxes.—Three cases sustained state taxes against unsuccessful objections founded on the commerce clause. Virginia *v.* Imperial Coal Sales Co. (293 U.S. 15) involved a property tax on money on hand and on deposit and on the excess of bills and accounts receivable over bills and accounts payable. The complainant was a domestic corporation conducting a sales agency that sold coal chiefly in interstate commerce. The Court applied the familiar rule that property employed in interstate commerce or property that is the fruit of commerce, other than gross proceeds, is subject to state taxation by the *ad valorem* method. The tax here was on the property and not on the privilege of conducting the business.

The tax sustained in International Bridge Co. *v.* Michigan (204 U.S. 83) was on the privilege of exercising a corporate franchise within the state. The case held that the mere ownership and operation of an international bridge do not constitute the doing of foreign commerce, though tolls are collected. The corporation does not itself engage in foreign commerce but merely "provides an instrumentality which others may use in conducting foreign commerce."

The question in Wiloil Corporation *v.* Pennsylvania (294 U.S. 169) was

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whether the sales there involved were interstate or local. A Pennsylvania corporation solicited in Pennsylvania purchases from Pennsylvania customers. It filled its orders with oil purchased by it from without the state, but the Court held that it was not required by its contracts to do so and might have complied with them by delivering oil from within the state. Therefore the interstate commerce involved was said to be merely incidental to a local sale. The interstate shipment remained but incidental in spite of the fact that the price stipulated was a price per gallon f.o.b. a point in Delaware and the shipment took the form of a bill of lading under which the Pennsylvania corporation as consignor shipped from Delaware to its Pennsylvania customers as consignees. There was the further fact that the price per gallon also added the Pennsylvania tax as well as the freight from Delaware, and this seemed to have some influence on the decision. The increasing use of sales taxes by the states will doubtless give rise to various methods of doing business that will raise close questions as to the legal character of the sales that result therefrom.

The only successful invocation of the commerce clause against a state tax was in Cooney *v.* Mountain States T. & T. Co. (294 U.S. 384) which annulled an occupation tax on a telephone company based on the number of instruments used in both interstate and intrastate commerce. The case follows established principles in holding that the tax is on interstate commerce and therefore invalid, if it could not be escaped by abandoning interstate commerce. The Chief Justice states the law as follows: "Where the tax is exacted from one doing both an interstate and intrastate business, it must appear that it is imposed solely on account of the latter; that the amount exacted is not increased because of the interstate business done; that one engaged exclusively in interstate commerce would not be subject to the tax; and that one who is taxed could discontinue the intrastate business without also withdrawing from the interstate business."

A caution perhaps should be registered against the qualification that "the amount exacted is not increased because of the interstate business done." The decisions thus far do not warrant the conclusion that an excise on doing local business must be nicely adjusted to the value or volume of that business. Considerable latitude has been allowed in the past. Whether the Chief Justice means to narrow the limits for the future must be a matter of doubt. The decision has an added interest because of efforts on the part of some states to get revenue from radio broadcasting and reception in which, of course, the interstate and the intrastate are inextricably intermingled.

STATE CRIMINAL PROSECUTIONS

Negroes on Juries.—State criminal procedure and the corrective power of the United States Supreme Court were involved in five cases during the past term. Hollins *v.* Oklahoma (295 U.S. 394) and Norris *v.* Alabama (294 U.S. 587) reversed convictions on the ground that exclusion of negroes from juries violated the equal-protection clause of the Fourteenth Amendment. In both cases the Supreme Court examined the record and the testimony below and concluded on its own independent judgment that the facts compelled the conclusion that negroes had been excluded from juries on account of their race. The Norris case involved the so-called Scottsboro case which had previously been before the Court and had resulted in a reversal of the conviction on the ground that the defendants had been denied adequate opportunity to secure counsel. Patterson *v.* Alabama (294 U.S. 600) also invloved the Scottsboro case. Here the technical question was whether the state court's action was adequately premised on the non-Federal ground that the motion for a new trial had not been seasonably presented. The Supreme Court was of opinion that the state court might have decided this procedural question differently if it were duly aware of all the circumstances and the ultimate conclusion of the Supreme Court on the fundamental constitutional issue, and so vacated the state judgment and sent the case back to the state court for reconsideration.

A different disposition was reached in Herndon *v.* Georgia (295 U.S. 441) in which a majority of the Supreme Court accepted the view that an earlier state decision afforded to the defendant an adequate warning that his conviction would be sustained by the state court upon the ground on which it in fact was. The technical issue in the case was whether the Federal question was seasonably raised upon a petition for rehearing in the state supreme court. If the Federal question is not then considered by the state court, it will not be considered by the United States Supreme Court unless it appears that the defendant could not have anticipated the original ruling of the state court. In the case at bar, the trial judge charged favorably to the defendant. After conviction the state court sustained the judgment by applying a rule of law less favorable to the defendant, which rule, he contends, violates the Federal Constitution. The majority say that the defendant had warning that the higher court would apply the less favorable rule and so should have on his original appeal raised the issue that such an application would deny Federal rights although the more favorable rule of the trial judge did not. Justices Cardozo, Brandeis and Stone, in dissenting, express their belief that the ruling of the state court on appeal was a surprise not to be foreseen from prior state decisions, and that therefore the Federal question was seasonably raised upon the petition for a rehearing.

The Mooney Case.—The principle declared in Mooney *v.* Holohan (294 U.S. 103) was that the Fourteenth Amendment requires a state to provide some corrective process by which one who alleges that he was convicted by perjured testimony knowingly used by the prosecuting authorities may within due season after discovery of the alleged facts bring the matter to the attention of the state courts as a basis for reversal of the conviction and the grant of a new trial. The State of California had taken the position that the alleged wrongful action of its prosecuting authorities did not raise a Federal question and that the State was not required to afford any corrective judicial process to remedy the alleged wrong.'' Both contentions are negatived by the Supreme Court. The opinion, however, states that it is not certain that no such corrective procedure is available in the state courts, and accordingly denies leave to file a petition for a original writ of habeas corpus in the Federal Supreme Court, but without prejudice to the right to petition again if it shall turn out that the California court upon due application decides that the issue cannot be brought before it upon habeas corpus proceedings.

State Judicial Procedure.—Behind these technical issues of proper procedure and these technical dispositions are seething controversies as to whether the supposed instruments of justice are being perverted by state prosecutors and state courts and transformed into weapons in the hands of dominant groups against races and classes whom the dominant groups wish to keep submerged. The primary concern of the Supreme Court is with the substantial fairness of the judicial procedure provided by the states. Mere alleged errors of state juries cannot raise a Federal question. Yet if the Supreme Court considers only the formalities on the statute books of the states, the substance of the requirements of fairness incorporated in the Fourteenth Amendment may be but a shadow. In the cases involving the alleged exclusion from juries of negroes on account of their race, the Supreme Court examined the record to discover therefrom the facts for itself. How far it will go into the facts to determine the truth of other allegations must vary from case to case. It goes into the facts to determine whether rates are confiscatory. It asserts its power to do so when the issue of constitutionality depends upon questions of fact or of mixed law and fact. The issues are too confused and too intricate to be susceptible of solution by any mechanical application of a formula.

OTHER ISSUES OF STATE POLICE POWER

The Negro in Politics.—The efforts of Texas to prevent negroes from exercising political power, twice baffled by Supreme Court decisions, succeeded finally in Grovey *v.* Townsend (295 U.S. 45) in which it was held unanimously that Texas had so arranged its regulation of primaries that participation therein was determined, not by the state or by state officials, but by the party convention which was a purely voluntary association for political action and not a creature of the state. The state did not pay the expenses or furnish the ballots or count the votes in the primary, though it required primaries, specified the form of ballot and the method of marking, and made prescriptions about fraudulent voting. Though the state must concern itself with elections, it was declared to be free to have no concern with primaries, even though under prevailing party predominance, nomination is substantially equivalent to election. The major principle involved is that the Thirteenth and Fourteenth Amendments are concerned only with state action and not with the conduct of individuals not wielding state power.

Educational and Professional Restrictions.—A student in a state university learned from Hamilton *v.* University of California (293 U.S. 245) that his right to continuance therein could be conditioned on his taking compulsory courses in military training. A dentist learned from Semler *v.* Oregon State Board (294 U.S. 608) that the retention of his license to practice could be conditioned on his refraining from advertising his superiority or his capacity to do his work without pain to patients or from displaying by large signs or glaring lights any representations of a tooth or bridge work, etc.

The jurisdiction of state courts was sustained in two cases. Doherty & Co. *v.* Goodman (294 U.S. 623) held that a non-resident doing business in the state through an agency may, when the business consists of the sale of securities, be subject to suit arising out of that business by service of process on the agent. Alaska Packers Ass'n *v.* Industrial Accident Commission (294 U.S. 523) allowed California to apply its workmen's compensation act to an injury in Alaska in the course of employment entered into in California, notwithstanding the fact that the contract of hiring provided that the employee elected to be governed by the compensation act of Alaska. It was not decided that Alaska might not have applied its statute in proceedings there. The ruling that California was not required to regard the Alaska remedy as exclusive was supported by circumstances somewhat peculiar to the particular employment, and the decision does not foreclose differentiations in the future.

State Rate Regulation.—Several cases on state rate regulation involve too intricate facts to admit of brief summary. Attention should be called, however, to West *v.* Chesapeake & P. Tel. Co. (295 U.S. 662) for its indication that the majority of the court are likely to give less weight to hypothetical cost of reproduction when in a period of depressed prices this standard operates to the disadvantage of the utility. A dissent by Mr. Justice Stone was concurred in by Justices Brandeis and Cardozo.

Railroad Underpasses.—A new departure appeared in Nashville etc. R. *v.* Walters (294 U.S. 405) in which Mr. Justice Brandeis for the majority of the Court set forth some qualifications in the supposedly hitherto existing rule as to putting upon railroads the cost or a part of the cost of underpasses for highways. The opinion pointed out that such underpasses are now often required not primarily for safety but in order to facilitate fast automobile traffic on through routes, that such traffic is often the direct competitor of the railroad, and that railroads commonly pay more in general taxes than do the operators of motor trucks and busses. Therefore the question of what share of the cost of underpasses may be put upon the railroads assumes a changed aspect from that when the underpass was required merely for the safety of local traffic. Thus, over the dissent of Justices Stone and Cardozo, the case was sent back to the state court for further consideration in the light of the Supreme Court's opinion.

Pipe Lines and Highways.—Compulsion on a pipe line company to change the location of its pipes on its own private right of way in order to facilitate the construction of public highways was held in Panhandle Co. *v.* State Highway Commission (294 U.S. 613) to be a taking of private property for public use without just compensation and therefore an unconstitutional exercise of the police power and an exercise of governmental authority that must invoke the use of the power of eminent domain.

STATE TAXATION

Questions of Jurisdiction.—The power of the domiciliary state to tax the intangibles of a domestic corporation was reaffirmed in Virginia *v.* Imperial Co. (293 U.S. 15). The question whether the domiciliary state may tax income from extra-state realty was raised in Lynch *v.* New York (293 U.S. 52) but left undetermined for the reason that it did not appear that the decision of the state court denying the power was based on the Federal Constitution. In Senior *v.* Braden (295 U.S. 422) the inability of a state to impose a tax directly on extra-state realty was held to extend to a tax on the intangible property of a domiciliary that takes the form of a trust certificate representing interests of the trust in extrastate land. By calling the trust certificate an interest in land, the majority opinion applied the ruling also to certificates in trusts owning domestic land, invoking a concession on the part of the state that taxing both the land and the trust certificate would not be taxation of land by uniform rule according to value. Mr. Justice Stone wrote a dissent in which Justices Brandeis and Cardozo joined. Pictures loaned to a Pennsylvania museum by a New York owner were found in City Bank Co. *v* Schnader (293 U.S. 112) to have acquired a Pennsylvania situs for an inheritance tax.

Chain and Department Stores.—Two attempts of states to impose progressive taxes on chain stores and department stores met opposite fates. Over the dissent of four Justices, Fox *v.* Standard Oil Co. (294 U.S. 87) sustained license fees which ranged from $2 for one store to $250 on each store in excess of 75, even though it were conceded that the top tax would make it unprofitable to continue some of the units. The tax condemned in Stewart Co. *v.* Lewis (294 U.S. 550) over the dissent of three Justices, was graduated according to volume of gross sales whether in a single emporium or in a chain. The majority thought that progression in a gross sales tax is as bad as progression in a tax on land or chattels. The minority pointed out that the former method of taxation on capital worked inequality adverse to the smaller stores with slower turnover, and that this new gross sales tax operated much more evenly on the basis of net income. It is not thought necessary to indicate the allocation of the Justices in these two cases.

Street Paving Cost.—Three justices dissented from the conclusion in Georgia R. & E. Co. *v.* Decatur (295 U.S. 165) that the cost of paving a street cannot be imposed upon a street railway without inquiring into the extent to which the railway is benefited thereby, when the state court had held that the statute contemplated apportionment according to benefits. The basis of the dissent was that compulsion to pave may be imposed on street railways under the police power as a condition of the right to occupy the streets, and that this power is enough to justify the fairness of putting the whole cost upon the railway when the state seeks to do so in the form of a special assessment according to benefits.

I. AMERICAN POLITICAL HISTORY

ELECTIONS OF 1935

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RHODE ISLAND

The elections in 1935 were significant largely because of the indications of the trend of public opinion on the New Deal and the Roosevelt Administration. To be sure, the few members of Congress elected would have no effect on the overwhelming majority returned for the President in the 1934 Congressional elections.

The election attracting most attention was the one in the first district of Rhode Island. The issue was clearly the Roosevelt Administration. The change from a Democratic majority of 21,431 in November, 1934, to a Republican majority of 13,262 was the cause of much rejoicing among Republicans. ''It is the beginning of the end of the New Deal'', expressed the way prominent Republicans felt about it. The election was held on August 6, with the following results:

Charles F. Risk, Republican	48,934
Antonio Prince, Democrat	35,672
Isaac Moses, Independent	706

In the same district at the November election in 1934 the votes were:

Francis B. Condon, Democrat	70,518
John C. Cosseboom, Republican	49,087

The Democratic majority of 21,431 in November, 1934, was changed to a Republican majority of 13,262 in August, 1935.

NEW YORK

Two members of Congress were elected in New York at the regular November election, as follows:

SECOND DISTRICT—	
William B. Barry, Democrat	153,968
Joseph M. Conroy, Republican	51,729
Samuel A. DeWitt, Socialist	4,901
TWENTY-SECOND DISTRICT—	
Edward W. Curley, Democrat	32,334
Victor Santini, Republican	9,238
Tyrell Wilson, Socialist	1,142
Manning Johnson, Communist	1,053

Both of these districts were strongly Democratic in 1934.

The Republicans gained control of the state legislature.

MICHIGAN

In the Michigan Third Congressional district on Dec. 17, Verner W. Main, Republican and Townsend Plan advocate, was elected. The following was the vote:

Verner W. Main, Republican	24,686
Howard W. Cavanaugh, Democrat	11,342
E. G. Kilfer, Farmer-Labor	397

There was an increased Republican majority of 5,000 over that of a year ago in this district.

OHIO

Soon after the Rhode Island election, Charles V. Truax, Democrat, representative at large from Ohio died. Governor Davey, on the pretense of economy, called a special election to fill the vacancy, on the regular election day in November, 1936. Of course, the 74th Congress will have finished its work long before that date. It is generally believed that the Governor, a Democrat, did not desire the possibility of a Republican victory in Ohio in 1935.

KENTUCKY

In Kentucky the interest was in the contest for the Governorship, with the Democratic candidate, champion of the New Deal, victorious. The vote follows:

A. B. Chandler, Democrat	556,262
King Swope, Republican	461,104

This was the chief source of Democratic rejoicing during the year.

Two Constitutional Amendments were adopted by the voters of Kentucky, as follows:

To repeal Prohibition,	for	421,690
	against	315,183
Old Age Pension,	for	699,175
	against	64,209

OTHER STATES

In Mississippi, the voters went through the formality of an election, with Hugh White, Democrat, elected Governor.

In New Jersey, an increased Republican majority in the state legislature was returned.

In many of the cities, Republicans were elected to replace Democratic mayors. This was especially the case in most of the cities in Ohio.

CHRONOLOGY OF AMERICAN PUBLIC AFFAIRS

(From *The New York Times,* January 1, 1936)

WITH THE PRESIDENT THROUGH THE YEAR

Jan. 4—Franklin Delano Roosevelt, thirty-second President of the United States, delivers his annual message to the Seventy-fourth Congress in the hall of the House of Representatives; his thesis outlined his program under three topics: Better use of national resources for life, provision against major risks and changes, better homes and home life.

Jan. 16—Membership in the World Court is advised for the United States, and the next day he submits his social security measure to Congress.

Jan. 22—Newspaper labor cases are removed from the jurisdiction of the NLRB.

Jan. 31—The Automobile Code is extended—a blow to organized labor.

Feb. 10—Code for tobacco industry is signed.

Feb. 20—A two-year extension of NRA, in order to place the government paramount in disputes, is asked of Congress.

March 4—The President in a message on shipping asks end of ocean mail contracts, adoption of an open subsidy and the transference of the judicial functions of the SBB to the Interstate Commerce Commission.

March 12—Holding companies are accused by the President of creating a lobby to defeat legislation.

March 22—A new food and drug act is demanded by the President, and the next day he approves the Filipino Constitution developed from the McDuffie-Tydings Independence Bill signed March 24, 1934.

April 8—Relief Bill calling for $4,880,000,000 is signed.

April 10-24—Two proclamations, the last of which raises the price of silver to 77.5757 cents an ounce for the government to pay.

April 28—To carry out a vast relief program and put men to work the President announces as his chief concerns over the radio.

May 20—Scale of relief wages is set by the President.

May 22—The President vetoes the Bonus Bill and the Senate the next day sustains the veto.

May 31—A constitutional change as a political issue is suggested.

June 16—The President inaugurates a new NRA to prevent a collapse of the price and wage schedules set up under the codes.

July 5—The Wagner Labor Bill is signed; it would make interstate commerce more elastic by collective bargaining and by assuring workers of association and the right to appoint their own agents.

July 29—The President designs half-cent and one-mill coins for use in payment of sales taxes.

July 31—Army Promotion Bill is signed as Congress restores full pensions to Spanish-American War veterans.

Aug. 1—National Youth Administration organized with $50,000,000 is to be aided by thirty-four intellectuals appointed by the President.

Aug. 2—The President predicts a reduction of 90 to 95 per cent of unemployed by Nov. 1, 1935.

Aug. 9—Colonel Alexander E. Williams is dismissed from the U. S. A. charged with accepting loans from salesmen seeking army contracts. The first Federal bill to regulate motor carriers is signed.

Aug. 14—The Social Security Bill is signed.

Aug. 23—A new NLRB is appointed: Joseph Warren Madden, chairman; John Michael Carmody and Edwin S. Smith; also a Social Security Board, in accordance with law of Aug. 14: Ex-Governor John G. Winant, chairman; Arthur J. Altemeyer (Second Assistant Secretary of Labor) and Vincent Morgan Miles.

Aug. 24.—AAA amendment modifying the act to conform to Supreme Court decisions is signed.

Aug. 26.—Holding Company Bill devised to protect investors from plutocratic companies and lighten carrying and service charges is signed.

Aug. 29—President Roosevelt confirmed the temporary setback of the social security program, until Congress meets in January, due to the defeat of the Third Deficiency Bill by Senator Huey Long's filibuster in the closing hours of Congress.

Aug. 30—President Roosevelt signed the Guffey Coal Act for control of the bituminous coal industry.

Aug. 31—The Carter Coal Company sued to test the constitutionality of the act. President Roosevelt signed the new act strengthening the TVA Act.

Sept. 4—Allocations from PWA and work-relief funds ($2,055,618) for forty-six non-Federal construction projects is approved. Declared that the swift cancellation of Standard-Vacuum Oil Company oil concession in Ethiopia was "another proof that, since March 4, 1933, dollar diplomacy is no longer recognized by the American Government."

Sept. 5—On the recommendation of Secretary Ickes the amendment to the Grazing Act is vetoed as destroying the original provisions of the measure.

Sept. 6—President Roosevelt appointed Stewart McDonald as Federal Housing Administrator to succeed Mr. Moffett.

Sept. 7—To WPA Administrator Hopkins was allocated $27,315,217 by President Roosevelt to provide six months' employment for more than 30,000 writers, painters, musicians and actors.

Sept. 13—General Hugh S. Johnson personally notified President Roosevelt that he planned to quit his position as WPA director for New York City.

Sept. 14—Dedicated the Whiteface Highway and in a speech took "It Can Be Done" as today's motto; asserted in another speech at Lake Placid that the CCC should be permanent; inspected new buildings at Saratoga, N.Y.

Sept. 16—Following transfer to the State Department of $143,000, 280 employes are promoted and forty posts are filled by new men.

Sept. 20—President Roosevelt named the National Bituminous Coal Commission to administer the Guffey Act, and also the Bituminous Coal Labor Board to handle labor problems arising under this system.

Sept. 23—Returned to Washington and, in an address opening the 1935 Mobilization for Human Needs, emphasized the obligation of industry above all other elements of the community to support social welfare services.

Sept. 25—Victor F. Ridder was appointed Works Progress Administrator at New York City in place of General Johnson.

Sept. 26—Left Washington on his transcontinental trip; approved outlays of $321,588,412 for housing, the PWA and WPA before his departure.

Sept. 28—In a speech at Fremont, Neb., defended the AAA as based on the Constitution, declared the program gave human rights fought for by farmer patriots in the Revolution, cited the wide gain in prices since 1932 and pledged defense of the AAA principle.

Sept. 29—No new or higher taxation is promised as the President announces a deficit cut of $1,246,526,110. Hailed by large crowds in the West; received a hearty welcome in Utah; and praised our steps to free the Philippines.

Sept. 30—Spoke at the Boulder Dam;

dedicated it as a ''splendid symbol'' of public works; asked industry to take the responsibility of speeding employment; held that his goal had been achieved, saying government spending had given business power to ''start wheels.''

Oct. 1—Received one of the greatest receptions in his career at Los Angeles, 1,000,000 persons lining the streets, and, in a speech, urged liberals to fight on a united front, saying ''we have come through stormy seas into fair weather.''

Oct. 2—130 ships of the navy are reviewed by the President off California. Speaking at the San Diego Fair, he enunciated the policy of keeping the United States ''untangled and free''; witnessed a big naval ''battle'' during special manoeuvres by the United States Fleet, watching 130 war vessels in action from the deck of the cruiser Houston.

Oct. 16—Arrived at the Panama Canal Zone, greeted President Arias of Panama as a ''best neighbor,'' inspected the canal zone defenses, transited the canal on the cruiser Houston and then headed for the San Blas Islands off Colombia.

Oct. 22—Arrived at Charleston and anchored in the harbor for the night.

Oct. 24—Returned to Washington and, in a nation-wide radio talk in connection with the 1935 Mobilization for Human Needs, predicted that the federal ''dole'' of direct relief would be ended during November and more than 2,000,000 on relief rolls would be transferred to work-relief by Dec. 1.

Oct. 25—A favorable vote of farmers on corn and hog control program convinces the President that the AAA should be permanent, and he so announces.

Oct. 30—In the dispute between Secretaries Roper and Hull as to trading with warring nations, the President sides with the latter by announcing: ''I have pledged myself to do my part in keeping America free of those entanglements that move us along the road to war.''

Nov. 6—A fund of $340,000 for three bridges on Inter-American Highway is approved.

Nov. 13—An informal order is issued to government departments to cut the 1936-37 budget $500,000,000.

Nov. 14—Independence for the Philippine Islands is proclaimed.

Nov. 19—Norman H. Davis is appointed chairman of American delegation to London Naval Conference.

Nov. 26—Budget estimates cut by President $400,000,000.

Nov. 27—Chairman Buchanan of the House Appropriations Committee, returning to Washington from Warm Springs, predicted that President Roosevelt would not ask Congress for more than $1,000,000,000 to finance further direct relief for the unemployed.

Nov. 29—Declared in a speech, at the Atlanta home-coming celebration, that the depth of the depression had passed and with it the peak of Federal appropriations; assured his listeners that the deficit would decrease; asserted that in the Spring of 1933 ''many of the great bankers'' who had ''flocked to Washington'' estimated that the country could stand a national debt of between $55,000,000,000 and $70,000,000,000.

Dec. 3—Told newspaper correspondents at Warm Springs, Ga., that he had ample material on which he based his Atlanta speech statement that bankers had told him in 1933 ''the country could safely stand a national debt of between $55,000,000,000 and $70,000,000,000.''

Dec. 9—Defended the AAA in a speech before the American Farm Bureau Federation at Chicago, hitting back hard at critics and denouncing ''calamity howlers''; received the degree of Doctor of Laws from Notre Dame University.

Dec. 17—President Roosevelt announced a change of policy by which public works expenditures would be voted in future by Congress as direct appropriations rather than be granted as allocations from a fund administered by the President; also that public works expenditures planned for the fiscal year 1937 would be presented to Congress in a formal appropriation bill which would not total more than $1,000,000,000.

Dec. 23—The President limits administration's relief for rest of the fiscal year, ending June 30, to 3,500,000 employable unemployed.

Dec. 23—Dissolution of NRA on Jan. 1, 1936, is decreed by executive order.

MARCH OF RECOVERY

Jan. 24—A. F. of L. unions denounce the Automobile Labor Board.

Feb. 1—Extension of Automobile Code attacked by A. F. of L. council.

Feb. 7—Report on labor under Automobile Code presented by Division of Planning and Research of NRA.

March 14—Treasury calls in First Liberty Loan bonds.

March 16—Ohio relief administration taken over by the National Government.

March 20—Restrictions on Spring wheat planting lifted by AAA.

March 30—A railway rate rise is denied by Interstate Commerce Commission. Strike in bituminous region averted by a truce, and again averted just three months later by same means.

April 14—Treasury calls in remaining Fourth Liberty bonds and, on April 21, outstanding firsts, paying cash or notes bearing a lower rate of interest than the bonds.

May 2—The New Deal is attacked by the United States Chamber of Commerce, threatening to rupture the truce of a year before.

May 13—Secretary Morgenthau, via radio, suggests universal stabilization, but adds that the United States is prepared to protect itself against further foreign devaluations.

June 26—The National Youth Administration is created by the government.

July 22—Officially predicted that wheat crop of Oklahoma, Missouri and Kansas will run $50,000,000 ahead of value of the 1934 crop.

July 25—Farms in the country were increased by over half a million, according to a report of the Census Bureau.

July 26—California's unemployed first to avail themselves (400,000 in Los Angeles County) of free medical treatment under United States contract.

July 27—Corn-hog farmers in thirty-three States receive a total of $4,000,000 from AAA.

July 28—Secretary of Commerce Roper reports the recovery of $885,000,000 in capital in 1934.

July 31—The government buys nearly 1,000,000 acres as sites for national forests.

Aug. 4—Federal Deposit Insurance Corporation reports a profit of $4,716,409 for fiscal year ending June 30.

Aug. 6—According to official report, 550,000 persons are employed in Federal relief work.

Aug. 11—As a result of increased business General Motors announces a $50,000,000 expansion. The Treasury reports a national income increase of $5,000,000,000 in 1934—a gain of 11 per cent over the previous year.

Aug. 12—General Electric Company reports that use of electric power has passed the 1929 peak.

Aug. 14—AAA increases wheat acreage by 5,200,000 acres to avert a shortage.

Aug. 15—Treasury begins to print $1 bills showing reverse of United States seal.

Aug. 19—Missouri utilizes cardboard one and five mill pieces to pay 1 per cent sales tax.

Aug. 22—Official report that relief costs fell in July $9,488,239 and the number of families on relief 4.6 per cent.

Aug. 28—Increased compensation checks sent to 210,000 Spanish-American War veterans, restoring benefits enjoyed prior to Economy Act of 1933.

Aug. 29—Due to weak government bond market Treasury announces inability to float to maximum the $100,000,000 issue of Federal Farm Mortgage Corporation bonds.

Sept. 2—William Green, president of the American Federation of Labor since December, 1924, demands a 34-hour week in Labor Day speech at Canton, Ohio.

Sept. 4—President Roosevelt signed an executive order placing the adminitsration expenses of the last seven recovery agencies (including the AAA, FERA, NRA and TVA) under the Director of the Budget as of Oct. 15.

Sept. 6—President Roosevelt, in a letter to Roy W. Howard, chairman of the board of the Scripps-Howard newspapers, stated that a business ''breathing spell'' was here, that the basis of recovery had been laid and that the nation could now go ahead in full confidence. (Stocks rose 1 to 4 points in a 2,155,000-share day to the best levels since Sept. 23, 1931.)

Sept. 9—WPA moves for expenditure of $5,000,000,000 of Federal and State funds at the rate of $420,000,000 per month. Federal liquor taxes paid in fiscal year 1934-35, according to the National Industrial Conference Board, amount to $411,000,000. Prohibition ends in Texas by result of vote of Aug. 24: 297,597, against 250,948. Passing the ten-billion dollar mark for the first time since its establishment in Feb. 1932, the loan authorizations of the RFC totaled $10,080,523,441 of which $5,622,153,904 was in advances to other than Federal agencies or for relief; private borrowers repaid $2,984,565,720 or 53 per cent of the advances to them.

Sept. 10—Sixteen coal companies operating in Kentucky filed suit at Louisville for an injunction against the Guffey Act, condemning it as a vehicle for five different kinds of unconstitutionality.

Sept. 12—A new non-government commission was created by the American Council of Education to formulate an American ''Youth Program.'' The unemployed will cost the State $50,000,000 annually for several years to come, according to a canvass of Washington officials engaged in relief work.

Sept. 18—Government aid to veterans for 1935 is put at $700,000,000 by officials of Veterans Administration.

Sept. 19—The sum of $2,700,000 is to be used in missionary and religious education, in social service and promotion work by the National Council of the Episcopal Church.

Sept. 23—To shift 3,500,000 persons from Federal relief to jobs by Dec. 1, the WPA gets an appropriation of $800,000,000.

Sept. 25—President Roosevelt told 200 newspaper men that if industry could demonstrate its ability to control chiselers and to cooperate voluntarily at the level of standards set by the invalidated codes he could see no need for legislation reviving the codes; he favored voluntary action.

Sept. 26—President Roosevelt set in motion machinery for a new recovery drive, designating Major George L. Berry as Coordinator for Industrial Cooperation. A joint conference in Washington of miners and operators, representing the Appalachian area, ratified terms for a settlement of the strike of 400,000 bituminous coal mine workers; the agreement runs until April 1, 1937, and provides for wage increases amounting to $90,000,000.

Oct. 1—Latest destruction of produce in effort to raise prices: Wisconsin farmers dump 30,000 gallons of milk.

Oct. 9—Pennsylvania's share of the President's $4,880,000,000 relief-work program passes the $250,000,000 mark.

Oct. 12—The Resettlement Administration began the construction near Berwyn Heights, Md., in the suburban area of Washington, the low-cost housing project known as ''Tugwelltown'' to cost $5,500,000 and house 5,000 persons.

Oct. 21—A large part of its $27,000,000 fund will be used by the National Youth Administration for employment of 94,000 youths in various work.

Oct. 22—Forest Service announces the

planting of 55,000,000 trees so far this year in the Midwestern shelter belt. Controller General McCarl approved WPA projects totalling $1,500,000,000, thus breaking the work relief jam.

Oct. 24—Five big coal companies (the Pittsburgh, Pocahontas, Consolidation, Berwind-White and Island Creek) refused to sign the Coal Code based on the Guffey Act.

Oct. 29—American Iron and Steel Institute announces that the average earnings of employes in steel industries have increased 50 per cent since September, 1934.

Oct. 30—Controller General John Raymond McCarl releases a new $4,000,000 list and grants to WPA rise to $1,043,431,649.

Nov. 1—The government ordered into effect the 15 per cent excise tax, under the Guffey Act, on the value of bituminous coal produced, to be collectible Jan. 2.

Nov. 4—The Treasury announces that in the first ten months of 1935 there were minted $28,186,143 in coins less than a dollar in value.

Nov. 8—The Commerce Department announced that a survey showed industrial output had reached the highest point in five years, showing an index of 90 as compared with 74 in September, 1934.

Nov. 10—Aubrey Williams, executive director of the National Youth Administration, announced a program calling for $1,638,945 aid monthly to 104,501 needy undergraduates in 1,602 colleges and universities and for 4,500 graduate students in 177 institutions.

Nov. 11—Robert R. Nathan, chief of the Income Section of the Division of Economic Research, estimated that depression losses to business were $26,631,000,000.

Nov. 13—Low basic one-way passenger rates are adopted on Western railways.

Nov. 14—Major George L. Berry, Coordinator for Industrial Cooperation, in an address called upon capital and labor to aid in formulating a program for hastening recovery, eliminating unemployment and maintaining business and labor standards.

Nov. 19—Since Sept. 16 gold to the amount of $563,000,000 coming from abroad has pushed the reserves of Federal Reserve Banks to $5,000,000,000, an excess of $3,000,000,000.

Nov. 25—The Union Pacific Railroad announces a reconditioning program with appropriation of $10,000,000. A referendum by the Chamber of Commerce of the United States showed an overwhelming opposition among its members to New Deal policies.

Nov. 27—Judge Atkins of the District of Columbia Supreme Court ruled that the Guffey Act was constitutional as to price-fixing but invalid as to sections regulating wages and hours because Congress did not set up definite standards. Tennessee Valley Authority authorizes construction of a $29,000,000 dam nine miles below Guntersville, Ala.

Nov. 29—The Federal ''dole,'' which had cost the government $3,694,000,000 since May, 1933, ended with the announcement by FERA that the twenty-two States not already cut off the direct relief list had now received their final payments for this purpose.

Nov. 30—WPA officials asserted that the goal of putting 3,500,000 persons on work relief by Dec. 1 had been achieved.

Dec. 5—Industrial leaders, following two days of the National Industrial Conference and two more days of discussion by the National Association of Manufacturers, adopted a platform on which organized industry proposed to work politically during the coming campaign for the defeat of ''President Roosevelt's new economic order.''

Dec. 7—Eighty-two per cent or over 10,000 manufacturers place themselves on record to continue NRA in any form. Striking WPA workers return to work at Key West, Fla., under government's threat to close down twenty-seven enterprises employing 1,500 workers.

Dec. 10—Strike affecting Gulf and Pacific ports ended by Joseph P.

Ryan, president of the International Longshoremen's Association.

Dec. 11—The National Labor Relations Board petitioned the Circuit Court of Appeals at Philadelphia to enforce an order against the Pennsylvania Greyhound Lines, Inc., and the Pennsylvania Greyhound Management Company, to engage in collective bargaining with its employes; this involved a test of the Wagner Labor Relations Act.

Dec. 13—Administrator Hopkins estimated that the physical wealth of the nation would be increased at least $5,000,000,000 as a result of the construction program being carried out under the work-relief program.

Dec. 15—WPA has found jobs for more than 8,000 musicians formerly on relief, according to Dr. Nikolai Sokoloff, director of music projects.

Dec. 16—A superliner for the United States Lines contracted for with the Newport News Shipbuilding and Dry Dock Company for $11,900,000 will give employment to 1,500 men for 28 months. Representatives of virtually all States met with members of the Social Security Board and gave assurances that various local governments would submit estimates about Jan. 1 of the amounts they planned to spend as their shares of the joint Federal-State old age pensions.

Dec. 18—The national debt reaches $30,555,791,967, passing the thirty billion mark for the first time in history.

Dec. 18-24—Christmas buying over the country shows a 9.5 per cent rise with a corresponding rise in tax payments; mail ships to Europe carry record loads; Christmas travel is 40 per cent above the 1934 level; nation's charity gifts show a $50,000,000 advance over last year.

Dec. 21—Federal Judge Otis at Kansas City held the Wagner Act, New Deal measure giving employes the right to organize and bargain collectively without company interference, was unconstitutional, and granted the Majestic Flour Mills a temporary injunction against the labor board.

Dec. 22—Secretary Roper, in his annual report, asserted that the nation was on its feet again, and that income for 1935 was 11 per cent over that of 1934.

Dec. 23—President Roosevelt issued an executive order providing for the dissolution of the NRA on Jan. 1.

POLITICS

March 23—Former President Hoover, in a letter to California Republicans, attacks the New Deal—he is against "regimentation and socialism" and favors "human liberty," "common sense" etc.

May 15—Ex-President Hoover advocates the abolition of the NRA.

June 10—The "Grass Roots" Republican convention at Springfield Ill., declares unswerving faith in the Constitution, and would maintain all its precepts, together with "our American political and economic systems established by our forefathers."

July 23—Governor Paul M. Pearson is removed from Virgin Islands and appointed to an administrative post at Washington. Amos R. E. Pinchot, formerly Deputy Assistant District Attorney of New York, Liberal supporter of the President in 1932, denounces the New Deal.

Aug. 9—Dr. Francis E. Townsend, advocate of a monthly pension of $200, prepares to form a third party. Part blame is fastened on New York police for Harlem Negro riot in March by Mayor La Guardia's committee.

Aug. 10—New Jersey sales tax is defied by Assemblymen, who refuse to collect tax on potatoes sold.

Aug. 11—Ex-President Hoover demands a show-down on the Constitution from President Roosevelt.

Aug. 27—The Department of Justice drops income-tax case against former Mayor James J. Walker of New York. He returns to New York on the Manhattan, after a three-year absence, Oct. 31. A "Save the Party" campaign is opened by the Maryland Federation of Young Republicans. James A. Moffett resigned as Federal Housing Administrator, effective Sept. 1.

Sept. 8—Senator Huey P. Long is mortally wounded by 29-year-old Dr. Carl A. Weiss, Jr., who is dispatched by bodyguard. Senator Long dies Sept. 10, thus possibly liquidating a threatened rupture in the Democratic party, for the deceased had wished to implant his ideas in the White House.

Sept. 11—Unpaid debts amounting to $417,868.18, incurred in the campaigns of 1928 and 1932, are revealed by the Democratic National Committee.

Sept. 17—Suspended from office on July 15 for ''official misconduct,'' Mayor W. D. Hayes of Sioux City, Iowa, is reinstated. Manuel Quezon, ''Father of Filipino Independence,'' is elected first President of the Philippine Islands. He is inaugurated, in the presence of Vice President Garner, Nov. 15.

Oct. 3—As President of the Canegie Endowment for International Peace, Dr. Nicholas Murray Butler begins an intensive campaign to mobilize the peace organizations of the nation.

Oct. 5—Former President Hoover, in a speech before the Western States Republican convention, delivered a sharp and comprehensive attack again the fiscal policies of President Roosevelt's administration, denounced the spending ''joyride,'' saw ''huge waste,'' warned against inflation and declared that taxes or ''repudiation'' were the only alternatives.

Oct. 15—The Texas Legislature moves to have Negro delegates excluded from the Democratic National Convention.

Oct. 18—William Green was reelected president of the American Federation of Labor for the eleventh consecutive term.

Oct. 19—Senator Norris of Nebraska announced his support of President Roosevelt for re-election; based his stand on the belief that Senator Borah could not be nominated.

Oct. 27—Dr. Francis E. Townsend closed the first national convention of his disciples at Chicago with a plea for the enactment of his plan to provide $200 a month pension to citizens of 60 years of age and over.

Nov. 2—Senator Borah, in an interview at Boise, declared war on the Republican Old Guard; asserted that bosses who failed when in power should not again be trusted; favored the nomination of a liberal candidate.

Nov. 5—State elections show what many expected to be shown in 1934 and wasn't—a falling off in support of the administration with a Republican trend. The falling off is now shown, and a mild but unorganized trend: In the President's home State, New York, Republicans captured control of the Assembly by winning 82 out of 150 seats; a Democratic Governor was elected in Kentucky, also a ''wet'' program; in Pennsylvania it was a stand-off, and in New Jersey the Republicans add eight seats to their majority in the Assembly and lose two in the Senate.

Nov. 16—Former President Hoover, in a second attack on New Deal spending policies, proposed an eleven-point fiscal program during a speech before the Ohio Society of New York; advocated a balanced budget and a return to gold; assailed ''money juggling'' and ''national planning'' with its ''visionary'' experiments; asked for a balanced budget and a return to the gold standard.

Nov. 20—Chairman Fletcher of the Republican National Committee appointed a committee of sixteen foes of the New Deal—heads of essential industries or prominent citizens—to raise a fund for the 1936 campaign.

Nov. 23—John L. Lewis, president of the United Mine Workers, resigned as vice president of the American Federation of Labor.

Nov. 30—National Woman's party, in biennial congress at Columbus, Ohio, concentrates on winning equal political rights.

Dec. 6—Governor Talmadge of Georgia, in New York, assailed President Roosevelt, ridiculed the relief program and announced the launching of a drive in the South to block the renomination of the President.

Dec. 12—Dr. Townsend and leaders of the Townsend Plan movement decided to put a candidate for President and a full Congressional ticket in the field in 1936.

Dec. 14—Governor Talmadge asserted at Washington he would be willing to become the Democratic candidate for President in 1936 if the party "had the courage to refuse to renominate Roosevelt"; he rejected the third party idea.

Dec. 16—The Republican National Committee decided to hold the party's national convention at Cleveland on June 9 next. A meeting of the Democratic National Committee is called by Postmaster General Farley to assemble in Washington on Jan. 9 to fix time and place of the party's national convention.

Dec. 17—Verner W. Main, Republican, bearing endorsement of the Townsend Old Age Pension organization, was elected to Congress from the Third Michigan District by a two-to-one majority over two opponents.

Dec. 19—Senator Borah declared he was willing to have liberal delegates from any State pledged to support him for the Republican nomination for the Presidency; authorized Wisconsin liberal Republicans to put his name at the head of the ticket in the primaries of that State, if they desired.

Dec. 22—Senator Borah becomes an aggressive candidate for the Republican nomination for President, with Representative Fish as his New York representative.

Dec. 23—Plans for opening session of Congress on Jan. 3, 1936, are upset by the death of Senator Thomas D. Schall, while Vice President Garner and the minority leader in the Senate, Senator McNary, confer.

Dec. 27—George F. Getz, treasurer of the National Republican Committee, says that the party has liquidated its last debt of $42,000.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

AMERICAN ANTIQUARIAN SOCIETY, Worcester, Mass.

AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Avenue, Chester. Pa.

AMERICAN HISTORICAL ASSN., 40 B Street S. W., Washington, D. C.

AMERICAN IRISH HISTORICAL SOCIETY, 132 East 16th St., New York City.

AMERICAN JEWISH HISTORICAL SOCIETY, Broadway at 122nd Street, New York City.

AMERICAN NUMISMATIC SOCIETY, 156th Street at Broadway, New York City.

AMERICAN PROPORTIONAL REPRESENTATION LEAGUE, 1417 Locust Street, Philadelphia, Pa.

AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY, 287 Convent Avenue, New York City.

AMERICAN SOCIETY OF CHURCH HISTORY, 98 Mercer St., Princeton, N. J.

CANADIAN HISTORICAL ASSN., Ottawa, Canada.

HISPANIC SOCIETY OF AMERICA, 156th St., W. of Broadway, New York City.

HOLLAND SOCIETY OF NEW YORK, 90 West Street, New York City.

HUGUENOT SOCIETY OF AMERICA, 2 West 45th Street, New York City.

METHODIST HISTORICAL SOCIETY, 150 Fifth Ave., New York City.

MISSISSIPPI VALLEY HISTORICAL ASSN., Station B, Lincoln, Neb.

NEW ENGLAND HISTORIC GENEOLOGICAL SOCIETY, 9 Ashburton Place, Boston, Mass.

NORTHWESTERN ASSN. OF HISTORY, GOVERNMENT AND ECONOMIC TEACHERS, Spokane, Wash.

PRESBYTERIAN HISTORICAL SOCIETY, 520 Witherspoon Building, Philadelphia, Pa.

SOCIETY FOR THE PRESERVATION OF NEW ENGLAND ANTIQUITIES, 141 Cambridge St., Boston, Mass.

STEUBEN SOCIETY OF AMERICA, 369 Lexington Ave., New York City.

Thomas Paine National Historical Assn., 148 West 47th Street, New York City.

United States Catholic Historical Society, New York City.

Woodrow Wilson Foundation, 6 East 39th Street, New York City.

POLITICAL

League for Industrial Democracy, 112 E. 19th Street, New York City.

National League of Women Voters, 726 Jackson Place, Washington, D. C.

National Municipal League, 309 E. 34th Street, New York City.

Women's National Democratic Club, Inc., Central Park West and 61st Street, New York City.

Women's National Republican Club, 6 East 37th Street, New York City.

DIVISION II

INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

THE UNITED STATES AND EUROPE

By Francis Brown

Associate Editor, *Current History*

FACTORS BEHIND ISOLATIONIST POLICY

The American attitude toward Europe throughout 1935 was dominated by the desire to keep out of that continent's turbulent affairs. On this note the year began and ended. Isolationism, despite 15 years of education and propaganda by international organizations, had a stronger hold on the American mind than when Woodrow Wilson's peace treaty and League of Nations were rejected.

Public opinion did not embrace isolationism merely because certain of the Founding Fathers had warned against ''entangling alliances'' or because of a perverse unwillingness to cooperate with other nations. Nor could a general concern with the domestic problem of economic reconstruction wholly explain a stay-at-home policy. The American attitude was based fundamentally on the post-war disillusionment that arose from the feeling that the United States had been needlessly drawn into a conflict from which it had nothing to gain and much to lose. Perhaps memory of the war experience would alone have sufficed to keep isolationism alive, but there was more than memory.

Events of the post-war years convinced many Americans, leaders as well as led, that the League of Nations created by the Treaty of Versailles was hardly more than a league of the conquerors to enforce an unjust peace. There seemed evidence, moreover, that the League was impotent so far as preventing war was concerned, and that only when the great powers pulled the strings did it even propose action against a recalcitrant.

Finally, there was a strong anti-war sentiment in the United States which affected directly the nation's attitude toward European affairs. The attitude was not pacifist, at least not strictly; rather was it an emotional desire to avoid the horrors of warfare. But to emotion had been added the growing belief that by pursuing the proper sort of foreign policy the country could keep clear of international conflict, especially one in Europe. Behind American relations with Europe during 1935 was this general state of mind. Happenings as the year wore on only served to strengthen it.

REJECTION OF WORLD COURT ADHERENCE

The first indication of public sentiment was given in January, when American adherence to the World Court came before the Senate. For 12 years American membership in the World Court had been debated and discussed; it had been endorsed by both political parties. Reservations insisted upon by the Senate in 1926 had caused prolonged and difficult negotiations that led to the drawing up of a protocol for revision of the World Court's statute and a protocol that would make possible American membership in the Court. Although these, as well as a protocol of signature, had been approved by the government in 1929, they did not reach the Senate for nearly another year and then for various reasons slumbered in the Foreign Relations Committee until 1935.

At last, when Congress convened in January, 1935, President Roosevelt asked that immediate action be taken on the World Court matter. On Jan. 9 the Senate Foreign Relations Committee by a vote of 14 to 7 recommended ratification, though with the reservation that, if the United States objected, the Court should not ‘‘entertain any request for an advisory opinion touching any dispute or question in which the United States has or claims an interest.’’ Since this only restated a reservation insisting upon in 1926 and tacitly accepted by members of the Court, it was not regarded as important. Ratification seemed to be assured, and long-time supporters of the Court were already anticipating the sweets of victory.

But soon opposition began to appear. By Jan. 16 it was so serious that President Roosevelt sent a note to the Senate urging that approval be given without delay. His intervention accomplished nothing, for amendments to the ratifying resolution adopted soon afterward made American membership all but meaningless, while the final Senate vote on Jan. 29 prevented membership on any terms.

Before the vote was taken opponents of the court exerted themselves to the utmost. Radio broadcasts, newspaper editorials and votes in State legislatures warned against American adherence. Most dramatic of all was the attack of Father Charles E. Coughlin, the radio priest of Detroit, who besides denouncing the Court urged all his listeners to telegraph their Senators a protest against American membership. These telegrams undoubtedly influenced the Senate vote, but only as they emphasized what most Senators already knew—that the American people were opposed to any commitment which might involve them in the affairs of Europe.

MUNITIONS INVESTIGATION IN THE SENATE

The weeks following the defeat of the World Court resolution saw in Europe the rise of new threats of war. In March Germany decided, in violation of the Treaty of Versailles, to restore compulsory military service. The other powers protested, but to no avail, and none seemed ready at the moment to fight Chancellor Hitler's Third Reich. While that particular war cloud disappeared, there were constant rumblings of a coming storm and war fears gripped most European nations. Nor were these dispelled when in late Summer it became clear that Italy was about to embark upon an imperialistic adventure in Ethiopia.

The American people, meanwhile, were receiving at home some impressive lessons on how wars are made. On Sept. 4, 1934, a special committee of the United States Senate began to investigate the munitions industry and its connection with both domestic and international policies. Quickly Senator Nye, the committee's chairman, and his colleagues disclosed facts which aroused widespread public indignation. It was shown, for example, that the industry had been on intimate terms with members of the American government, that it had sold arms secrets to other governments, that it had supplied munitions without partiality to various belligerents. In short, the evidence brought out by the Senate inquiry seemed to substantiate the old charge that an international armaments ring existed.

The committee had other matters to disclose. It revealed the great profits made by the munitions industry in the World War. It brought out facts which pointed to a definite connection between the War and Navy Departments and the arms firms. Most important of all, the committee's probe tended to show that the sale of American-made munitions to the Allies in the years between 1914 and 1917 had considerable influence in bringing the United States into the war on the Allied side.

The day-by-day findings of the Nye committee were reported with varying degrees of completeness to the country, while Senator Nye, in radio broadcast and platform address, brought home to thousands of Americans the relationship between economics and war. As a result the belief was firmly planted in the public mind that wars are most often fought to protect private interests.

While there may have been no direct connection between the Nye Committee's revelations and the Senate vote against American membership in the World Court, the Senate's approval on June 6, 1935, of the Geneva Convention for the suppression of the international arms traffic was undoubtedly stimulated by what the committee had uncovered. So also were the Congressional proposals to take the profits out of war. All these failed of passage, but efforts to make war unprofitable, impossible, or both, did not end with them.

At Geneva the permanent Disarmament Conference committee on arms traffic had before it the American draft treaty which sought to supervise munitions manufacture and trade in arms. But the conference itself had faded into nothingness and only the most optimistic could believe that the American suggestion would ever be adopted by the nations of the world. Apparently if the United States was to keep out of a European war the protective measures would have to be taken at home, a conclusion in accord with the country's growing isolationist sentiment.

THE NEUTRALITY RESOLUTION

Perhaps nothing would have happened had not the possibility of a new European war arisen when in midsummer it became almost certain that Italy would shortly move into Ethiopia. On Aug. 17 a joint resolution was introduced in Congress giving the President discretionary power in prohibiting the export of war materials to one or all of the participants in a war. It was generally understood that the resolution had Administration approval. That it did not have Congressional approval became quickly evident.

An independent resolution laid before the Senate would have made it mandatory upon the President to embargo shipments of war materials to all belligerents. The resolution, though easily adopted in the upper House, did not please the Administration, which wanted a more flexible measure. Nor did it please the House of Representatives, which was under more strict Administration control. Finally a compromise was devised which accepted the mandatory provisions but limited their life to the period ending Feb. 29, 1936. On Aug. 31 President Roosevelt approved the resolution, declaring that it expressed "the fixed desire of the government and people of the United States to avoid any action which will involve us in war."

The resolution provided that "upon the outbreak of war, or during the progress of war" the President should proclaim the fact, and thereafter it should be unlawful to export "arms, ammunition or implements of war" from any American port to any belligerent, directly or indirectly through a neutral country. Munitions manufacturers were required to register with a government munitions board. The President might also warn citizens of the United States against traveling on belligerent ships, except at their own risk, and close American ports to belligerent submarines. By this action the United States broke with its historic insistence upon the freedom of the seas.

Before long there was occasion to put the resolution into effect. The Munitions Control Board was quickly established and began its work of licensing the operations of arms manufacturers. Then on Oct. 5 the President issued a proclamation "that a state of war unhappily exists between Ethiopia and the Kingdom of Italy" and laid an embargo on the export to these countries of a stated list of "implements of war." On the same day he warned American citizens against traveling on ships of either belligerent. Thus the United States became the first government to declare officially that war existed in East Africa.

So far as was legally possible the government had shut the various avenues that might involve the United States in this particular war. Credit and loans were not touched upon by the Neutrality Resolution, but there was little likelihood that loans would be made to Ethiopia, while loans to Italy were barred by the Johnson Act which forbids loans to nations that have defaulted on their war debts to the United States. But as no provision had been made for embargoing oil, scrap iron, copper and the many other sinews of war, there was abundant reason to fear that the country might still be dragged into a foreign conflict. This fear lay behind the moral pressure exerted by the Administration upon dealers in war materials. Secretary Ickes, for example, called upon oil producers to "keep the spirit and letter" of the Neutrality Resolution by not selling to Italy. But moral suasion was hardly enough.

That the Administration was dissatisfied with the resolution in its existing form there was abundant proof. The President had said as much when he signed it on Aug. 31, and from other sources came warnings that the government believed the embargo provisions should be flexible enough to cover all sorts of war materials. Secretary Hull, in a radio broadcast on Nov. 6, said that "the shipment of arms is not the only way and, in fact, is not the principal way by which our commerce with foreign nations may lead to serious international difficulties." Continuing, he pointed out that "every war presents different circumstances and conditions which might have to be dealt with differently both as to time and manner. For these reasons, difficulties inherent in any effort to lay down by legislative enactment inelastic rules or regulations to be applied to every situation that may arise will at once be apparent."

THE ITALO-ETHIOPIAN CONFLICT

The Italo-Ethiopian conflict had been the concern of the State Department for several weeks before the Neutrality Resolution was adopted. Just how active the diplomats had been Secretary Hull made clear in a statement issued Sept. 12 when he reminded both Italy and Ethiopia that they were signatories of the Kellogg-Briand pact which they had entered into "for the purpose of safeguarding peace and sparing the world the incalculable losses and human suffering that inevitably attend and follow in the wake of wars."

The Kellogg Pact, the Secretary said, had been invoked after the Emperor of Ethiopia on July 3 had asked the American Government "to examine means of securing observance of the Pact of Paris." A week later, when the Italian Ambassador called at the State Department, he was told of "our increasing concern over the situation arising out of Italy's dispute with Ethiopia and our earnest hope that a means may be found to arrive at a peaceful and mutually satisfactory solution of the problem."

Because the State Department had been somewhat vague in its reply to the Ethiopian Emperor it has been assumed in some quarters that United States was prepared to abandon the Kellogg pact. This Secretary Hull denied during a press conference on July 11 and also in the course of an interview on the same day with the French and British Ambassadors. But as uncertainty still continued the Secretary of State on July 12 declared in a formal statement that "the Pact of Paris is no less binding now than when it was entered into by the sixty-three nations that are parties to it. * * * The United States and the other nations are interested in the maintenance of the pact and the sanctity of the international commitments assumed thereby for the promotion and maintenance of peace among the nations of the world." This same attitude was reiterated in the Secretary's pronouncement of Sept. 12, but, as events soon showed, the Kellogg pact carried little weight with Italy, while none of the signatories, least of all the United States, was willing to take up arms in its defense.

On the very day (Aug. 31) that President Roosevelt approved the Neutrality Resolution news came from the Ethiopian capital that the Emperor had granted an enormous oil and mineral concession to a British promoter, Francis M. Rickett, who represented the mysterious African Exploration Development Corporation. Now began one of the most amazing episodes in the whole sorry business.

The British promoter declared that the company for whom he had negotiated the concession was owned by "the Standard Oil Company." Officials of the Standard Oil companies, however, denied this, and suspicion was fastened on the British. But the British Foreign Office disavowed any connection with the affair, and Secretary Hull, aware that American interests might after all be involved, told newspapermen that the United States would not be drawn into the quarrel even if Americans were behind the concession. The dénouement was as sudden as it was unexpected.

On Sept. 3 officials of the Standard Vacuum Oil Company visited the State Department where they told Secretary Hull that their company held the concession. They had come, they said, to "seek advice." Secretary Hull gave it without reservation, urging them to relinquish the concession immediately since it had already been "the cause of great embarrassment not only to this government but to other governments who are making strenuous efforts for the preservation of peace." The Standard Vacuum Oil Company thereupon agreed to drop its interest in the concession. President Roosevelt on Sept. 4 cited the incident as proof that "dollar diplomacy is no longer recognized by the American government."

As winter approached American policy toward the troubles in Europe continued to be one of isolation. On Nov. 26 a State Department spokesman emphasized the government's intention to maintain neutrality, regardless of any action that the League of Nations or its members might take. The government's chief regret seemed to be that it could not embargo other goods than those covered by the resolution. Public opinion was undoubtedly behind the neutrality policy, although whether popular support could be obtained for flexible provisions was less certain.

As 1935 drew to a close isolationist sentiment was increased by the strange peace plan brought forward by Sir Samuel Hoare and Premier Laval as a means of ending the Italo-Ethiopian war. Its terms seemed to give Italy all and more than she had once sought, and this despite League condemnation of Italian aggression. So apparent a flouting of League principles completed American disillusionment with things European. Whatever likelihood there had been—and this was small, indeed—that the United States could be brought to cooperate in European affairs was completely dispelled by the storm of criticism that followed the publication of the Laval-Hoare proposals.

NAVAL PROBLEMS AND THE LONDON CONFERENCE

While Americans made it apparent that so far as possible they wished to be let alone, there were powerful groups in the country who were seeking to make sure that adequate military and naval defense of this "splendid isolation" would not be lacking. The Roosevelt Administration, reversing the policy of its predecessors, began in 1934 to build up the American navy to the strength permitted by the Washington Naval treaty which expires in 1936. Though full treaty strength would not be reached until 1942, the building program with its huge appropriations caused foreign nations, particularly Japan, to conclude that the United States would shortly embark upon an aggressive policy. At the same time appropriations for the army were greatly increased.

Since the American fleet was concentrated in the Pacific, it was natural to believe that the navy-building program was directed against Japan. The absence of any European rival to American naval ambitions substantiated this belief, especially since it was generally understood that in naval matters the United States and Great Britain presented a common front. To all this the Washington Naval Treaty with its famous 5-5-3 ratio gave point. Thus the naval question involved the powers of three continents.

At the Washington Conference of

1921-1922 it had been agreed that, among other things, the United States, Great Britain and Japan would limit the tonnage of their capital ships and aircraft carriers and apportion their respective strengths in the ratio of 5-5-3. A conference at London in 1930 gave the Japanese equality in submarines and established the ratio of 10 10-7 for small cruisers and destroyers. But the Japanese demand for naval equality was refused, and from then on Japanese dislike for naval limitation knew no bounds.

The London treaty provided that in 1935 the signatories should reassemble and draw up another naval agreement. In order to prepare for this conference representatives of the United States and Great Britain held preliminary conversations in London during the summer of 1934; at later sessions in the fall the Japanese were present. The Americans were ready to reduce naval armaments, but did not wish to disturb the existing ratios. They were thus unreceptive to the Japanese proposal for the limitation of each navy to a specified tonnage, for the reduction of total tonnage of the respective fleets and for the abolition of offensive warships. Apparently the British were at first ready to make concessions, but gradually they tended to support the American view of things and as a result the meetings were adjourned without reaching a decision. Then on Dec. 29, 1934, Japan denounced the Washington Naval Treaty.

Such was the background of the naval conference which assembled in London on Dec. 9, 1935. Five nations were represented—the United States, Great Britain, Japan, France and Italy—but from the first it was realized that France and Italy would have little to say. After several sessions the conference on Dec. 20 adjourned for the Christmas holidays, and its real work was reserved for 1936. Nothing was accomplished in these first meetings, and no observer dared suggest the final outcome of the conference. For the moment, however, it was apparent that the Anglo-American front remained unbroken, both powers holding out against the Japanese demand for naval parity or its equivalent.

CURRENCY STABILIZATION AND TRADE AGREEMENTS

While the prospect of war and the desire to avoid international catastrophe dominated American relations with Europe during 1935, economic questions were hardly less important, however much they may have been obscured. War debts, which once had been a matter of very live controversy, were gradually being forgotten since all nations except Finland continued to default on these obligations. American holders of German securities watched the return on their investment steadily scaled down and came to realize that, despite vehement protests and complicated negotiations, there was small chance of recovering the money loaned so freely during the Twenties.

Currency stabilization at the end of the year appeared as distant as ever. Occasional rumors that stabilization would be attempted came to nothing, and statements by public men did not help the situation. France, as part of one of her periodic Cabinet upsets, experienced a financial crisis in May which caused a serious flight of capital. After the trouble had passed it became known that the United States Treasury had aided the French considerably by agreeing to accept earmarked gold at a time when dollar exchange was low in Paris and when gold shipments were not physically possible. But this action hardly implied that the United States was ready for stabilization, while official pronouncements in England soon made it clear that the British wanted to wait.

But debts and unstable currencies did not prevent some improvement in American trade with Europe. The total value of this trade rose in the first ten months of 1935 to $1,251,403,408, compared with $1,195,093,846 in the same period of 1934. Most of this improvement was undoubtedly due to the recovery trend in the United States and some of the European countries. Some of it could be attributed to the trade agreements negotiated by the United States, although during 1935 agreements were signed with only three European nations—Sweden, Belgium and the Netherlands.

The Trade Agreements Act of 1934

authorized the President to negotiate trade agreements with other nations whenever it was found that existing tariffs were "unduly burdening and restricting the foreign trade of the United States." Duties might be raised or lowered by as much as 50 per cent. But the most-favored-nation clause in many existing commercial treaties made for much more extensive reductions than had perhaps been foreseen. This clause provided that each of the signatories shall grant to the products of the other any advantage given to the same products of a third country. Thus tariff concessions in a trade treaty might inaugurate a general reduction of duties. While in the case of the trade agreements negotiated by the Roosevelt administration there were some reservations in regard to the "most-favored nation" clause, and none of the agreements made very generous concessions, nevertheless it had become apparent by the end of 1935 that, through these treaties, the government was revising tariff schedules. How great a stimulus to foreign trade this would be remained for the future to determine.

Trade with the Soviet Union languished following American recognition of the Communist regime in 1933. Negotiations for a debt settlement and for a credit agreement on which any improvement in trade seemed to depend finally broke down on Jan. 31, 1935, and were indefinitely postponed. But in mid-summer the United States promised to extend to the Soviet Union the minimum rates established by the new trade treaties, while in return the Union would purchase more American goods. Ambassador Bullitt declared that the total of Soviet purchases would reach at least $30,000,000 in the next year, a figure to be compared with the recent annual average of $12,000,000.

CONCLUSION

The government's efforts to increase foreign trade contradicted to some extent the isolationist sentiment of the country. But these were not the only contradictions. Certainly it was hardly logical for a people who wish to be left alone and to keep out of European affairs to denounce the Nazi régime in Germany. Yet various groups were loud in their outcries against the excesses of Hitler's rule. Still other groups protested against Italy's war in Ethiopia, and some bitterly criticized the Soviet Union. The American government itself in two tart communications at the end of August accused the Soviet Union of promoting revolutionary activity in the United States, contrary to obligations assumed at the time of recognition. The Soviets, however, denied the charges and the incident was quickly forgotten.

While the contradictions were present they did not upset the practical unanimity of public demand that the United States keep out of European concerns. Protests and demonstrations, trade agreements, debts and currency stabilization seemingly did not touch the lives of the millions whose principal worry was lest they and their country be drawn into foreign conflict. That worry made them isolationist, and the general isolationist sentiment gave birth to the most important single event in American foreign policy for 1935—the passage of the Neutrality Resolution.

UNITED STATES RELATIONS WITH LATIN AMERICA

By Graham Stuart

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ROOSEVELT GOOD-NEIGHBOR POLICY

The administration of President Franklin D. Roosevelt allowed nothing to intervene during the year 1935 which might in the slightest way interfere with the "good neighbor policy" in its relations with the Latin American republics. Attempts by Senator Borah and the Knights of Columbus to bring about an interference with the Mexican government's religious policy were wholly in vain. Every move in the various attempts to settle the war in the Chaco was made in the closest cooperation with the Latin American states. Secretary of State Hull gave precedence to Latin America in his efforts to break down trade barriers by reciprocity commercial agreements. Assistant Secretary of State Sumner Welles made a constant series of addresses during the year stressing the importance of close cooperation between the United States and its neighbors to the south. In a national broadcast made March 14, 1935, Mr. Welles declared that "the inter-American policy of this Government will from now on be considered the foundation upon which the structure of all our foreign relationships must necessarily rest. No foreign policy worthy of the name can be devised for the United States unless it has as its sole objective the enhancement of the true interest of the American people."

COMMERCIAL RECIPROCITY AGREEMENTS

Cuba.—The year 1935 was notable for the success of the United States in removing certain long standing causes of suspicion by the abrogation of the Platt Amendment, by the withdrawal of all marines from Latin American territory, and by the solemn promise to put an end to the policy of intervention. Perhaps the most fundamental achievement towards better relations was the signing of a number of new commercial agreements with Latin American states.

It will be remembered that the first of these reciprocity commercial agreements authorized by the Act of June 12, 1934, was signed with Cuba Aug. 24, 1934, and became effective Sept. 3, 1934. In a report made by United States Ambassador to Cuba, Jefferson Caffery, released to the press Sept. 24, 1935, the results of 11 months trade reciprocity were summarized. Imports of hog lard from the United States increased from 15,000,000 pounds to almost 30,000,000 pounds, an increase of 97.9 per cent. Shipments of rice jumped from 3,379 bags to 329,864 bags. Cuban imports of American potatoes reached the total of 29,922,090 pounds, as against the 7,998,064 pounds imported in the 11 months prior to the agreement, a gain of 274.1 per cent.

Manufactured articles showed gains equal to agricultural products. Automobiles made an increase of 287.7 per cent, rising from 651 to 2,524 cars. Tractors made a gain of 128.5 per cent and electrical equipment 141.1 per cent. Cigarettes showed the greatest gain, jumping from 279,000 to 20,336,600. The price on cigarettes was cut from 75 cents to 25 cents per package as a result of the lowering of excessive import duties. The total export trade of the United States with Cuba during the prior 11 months of the reciprocity agreement increased 60 per cent, or $19,231,260 in value, making a high level of $51,470,108 for the period.

Brazil.—The manifest advantages accruing to the United States and Cuba as a result of the reciprocity agreement stimulated the early negotiation of similar agreements. The next reciprocity trade agreement to be signed and the first of a strictly most-favored-nation type was with Brazil on Feb. 2, 1935. Brazil is next to Argentina the best market of the United States in South America and, although over 96 per cent of Brazilian imports into the United States are duty free, the United States was willing to maintain 90.8 per cent on the free list and to give reductions on 2.5 per cent. In return Brazil reduced the duty on 28 tariff items, including automobiles and accessories and fresh fruits.

Haiti.—The third of these arrangements with Latin American states was with Haiti, signed March 28, 1935. Here, as in Brazil, the United States agreed to maintain on the free list over half of the imports from Haiti and in return received reductions on such articles as sewing machines, meat, dairy products, and certain fruits.

Colombia.—The next reciprocal trade agreement was signed with Colombia on Sept. 13, 1935. In this treaty the United States was granted tariff reductions on several hundred products, including lard, fruits, vegetables, tobacco and cigarettes, automobiles, machinery and electrical equipment. The tariff reduction on lard was 50 per cent, on automobiles 20 to 25 per cent. In return, the United States promised to keep the leading exports of Colombia, such as coffee, bananas, uncut emeralds, and platinum, on the free list.

Honduras.—A reciprocal trade agreement was signed with Honduras on Dec. 18, 1935. Here again the United States agreed to keep coffee, bananas, and cocoa beans on the free list and reduce the tariff on guava and mango pastes and pulp in return for which Honduras reduced the tariff on some 17 commodities imported from the United States. As the year closed the United States was ready to sign a similar agreement with Guatamala.

THE ROERICH PACT

One of the most interesting multilateral treaties signed by the United States during the past year was the so-called Roerich Pact, a treaty for the protection of artistic and scientific institutions and historic monuments. This treaty was signed on April 15, 1935, by the 21 republics of the Western Hemisphere in the White House in the presence of President Roosevelt. The treaty provides for the protection of historic monuments, museums, scientific, artistic, religious and cultural institutions in times of peace as well as war. Each signatory agreed to deposit with the Pan American Union a list of the monuments and institutions for which protection is desired. A special flag with a red circle and a triple red sphere on a white background was adopted as the emblem of protection. The United States was the first state to deposit the ratification of the treaty, July 13, 1935.

UNITED STATES—ARGENTINA SANITARY CONVENTION

A Sanitary Convention was signed by the United States and Argentina on May 24, 1935, in order that the two countries might cooperate to prevent the introduction and spread of infectious and contagious plant and animal diseases and of insect pests. Each government agreed to notify the other promptly of the appearance and extent of plant and animal diseases and of insect pests and to exchange official regulations, periodicals and other publications on the subject. Each government also agreed to permit visits to or stationing in its territory of experts of the other government to study and observe the existence, distribution, and methods of control and eradication of such diseases and pests. Each party also recognized the right of the other to prohibit the importation of animal or plant products originating in or coming from infected territories or zones. Secretary Hull pointed out that the passage of this convention would rectify an unfair situation which existed in reference to an embargo in Patagonia for foot and mouth disease although records of the past 30 years showed that Patagonia had been entirely free from this disease.

PAN AMERICAN CONFERENCES

Fifth Pan American Commercial Conference.—Pursuant to a resolution of the Seventh International Conference of American States held in Montevideo in 1933 the Fifth Pan American Commercial Conference met in Buenos Aires from May 26 to June 19, 1935, under the auspices of the Argentine Republic. All 21 republics were represented. The Conference was opened in the presence of the Presidents of Argentina and Brazil, and five ministers of foreign affairs were present at the closing session. Some 64 conclusions were approved: four in the form of conventions, three as resolutions, and the remainder as declarations or recommendations. The four conventions signed relate to measures for the suppression of smuggling; creation of Pan American commercial boards in each republic to cooperate with the Pan American Union in gathering and distributing commercial information; establishment of a Pan American tourist passport, and the creation of transit facilities for airplanes operating on regularly established commercial lines. The delegates of the United States signed the first two of these conventions and declared that the government of the United States was willing to conclude bilateral agreements with each country to carry out the purpose of the other two conventions.

Red Cross and Other Conferences.—Three other important Pan American conferences occurred during the year 1935. The Third Pan American Red Cross Conference was held at Rio de Janeiro Sept. 15 to 26. The Seventh Pan American Scientific Congress met in Mexico City Sept. 8-17 with 487 representatives from 18 countries. Dividing into 14 sections, the delegates listened to some 300 technical papers in the fields of the exact and social sciences. The Seventh Pan American Child Congress met in Mexico City October 12 to 19 and considered an agenda covering every phase of child welfare. At the invitation of the Government of the United States the second general assembly of the Pan American Institute of Geography and History convened at the Pan American Union the week of October 14-19.

MEXICO

Claims.—On Jan. 3 the Mexican chargé d'affaires at Washington presented a check for $500,000 to the United States Government as the first annual installment provided for by the claims convention signed at Mexico City April 24, 1934, providing for the *en bloc* settlement of the claims presented instead of by international adjudication in each case as provided by the convention of Sept. 10, 1923. On June 29 representatives were appointed to determine the total amount to be paid by Mexico persuant to the convention.

Salvage Treaty. — The United States and Mexico on June 13, 1935, signed a salvage treaty designed to facilitate the assistance and salvage of vessels in danger or shipwrecked on the coasts or within the territorial waters of either country. Vessels and rescue apparatus public or private might assist vessels of their own nationality.

The Religious Problem.—Undoubtedly the religious problem remained the outstanding possible cause of friction between the United States and Mexico. When the text of Senator Borah's resolution for a senatorial investigation of the religious persecution in Mexico was published in Mexico early in February the Mexican press reminded him of President Roosevelt's policy of the "good-neighbor" and the editorials indicated that a Senatorial investigation would be regarded as a most offensive form of intervention. When several members of both the Senate and House in Washington supported Senator Borah's proposal and when Representative Connery of South Carolina demanded that Ambassador Daniels be recalled because of his friendly attitude towards the Mexican government's program, Secretary of State Hull gave notice to the United States Senators and Congressmen that Mexico's religious troubles were the internal affairs of a sovereign state and as such were not subject to review by a neighbor state. However, various elements and groups in the United States were unwilling to let the question drop. Archbishop Curley and Cardinal Dougherty urged a Congressional inquiry. Representative Higgins introduced a resolution for the withdrawal of recognition and for the recall of Ambassador Daniels. The Knights of Columbus protested vigorously to President Roosevelt for his failure to remonstrate with the government for its treatment of Catholics. This organization even claimed that the President prevented action being taken on the Borah resolution by keeping it pigeonholed in the Committee on Foreign Relations files. Fortunately, President Roosevelt and Secretary Hull were unmoved by these unwarranted efforts to embroil the United States in the Mexican religious controversy and friendly relations endured throughout the year.

CUBA

Political Disturbances.—The abrogation of the Platt Amendment, thereby relieving the United States of any responsibility for the internal condition in Cuba, seemed to make the Cuban Government's problem the more difficult. The year 1935 opened with student strikes, followed by a strike of government employees, and finally by a general strike. President Mendieta was forced to suspend constitutional law and proclaim a state of siege. The situation became so serious that the State Department of the United States declared that the new treaty of relations between the United States and Cuba of May 29, 1934 abolished the special relationship previously existing, and the Government of the United States wished it made emphatically clear that it would not intervene directly or indirectly in the political concerns of the Cuban people; consequently it neither favored nor opposed the participation in Cuba's national elections of any particular party or group.

When, in the fall, the Liberal Party nominated Dr. Carlos Manuel de la Cruz and the Democratic Party nominated M. G. Menocal, trouble again threatened. The Government postponed the date of election several times, but finally fixed Jan. 10, 1936, as the definite date. Early in December President Mendieta invited President H. W. Dodds of Princeton, a specialist in election methods, to go to Cuba and draft a voting plan. Dr. Dodds accepted and early in December flew to Havana and worked out a comprehensive program. Hardly, however, was it completed before President Mendieta resigned and the Electoral College chose Vice-President Barnet as provisional president until a new president should be elected and inaugurated. Liberal nominee de la Cruz blamed the United States for the situation and demanded the repeal of the decree embodying the Dodds electoral formula.

Foreign Policy Association Report.—A report on the Cuban situation issued by a commission organized by the Foreign Policy Association of the United States in the spring of 1935, although praising the refusal of the Roosevelt Administration to intervene, questioned the advisability of American diplomats' influencing events in Cuba. The report advised American diplomats to avoid even the appearance of evil. More concretely the report recommended that the abrogation of the Platt Amendment be completed by the withdrawal from the naval base at Guatanamo. It was also suggested that Washington change its recognition policy to accept *de facto* governments automatically by recognition. The greatest Cuban problem according to the commission report was the sugar industry, which had fastened the scourge of a one crop economy upon the island. A program for diversified agriculture was recommended as well as an international sugar agreement, fixing import quotas for all countries.

Visit of Economic Union to U. S.—As a means of reforming the internal economic situation in Cuba, the Economic Union of Cuba, a permanent body formed to cooperate with the United States in carrying out the provisions of the Cuban-American Trade Agreement, visited the United States in August. Both President Roosevelt and Secretary Hull spoke to these representatives and expressed their interest in and gratification at the program of the organization.

THE CARIBBEAN COUNTRIES

Haiti.—Although the last American marines had been withdrawn from Haiti before the year 1935 opened, the United States was not entirely freed from responsibilities in the island. One of the provisions of the agreement signed in 1933 contemplated the purchase of the National Bank of Haiti from its New York owners. A group of 11 Haitian senators opposed this arrangement on the ground that the New York bankers had forfeited any rights to further consideration. President Stenio Vincent proposed a national plebiscite to settle the question and the returns showed an overwhelming vote in favor of the purchase of the Bank. The opposition Senators refused to accept the result and were thereupon expelled from the Senate. The controversy gave the opponents of the Government additional grounds for alleging that President Vincent was unable to resist pressure exerted from the north. More friendly relations ensued, however, from the prompt aid sent by the United States after the terrible October storms.

Panama.—For a number of years the Panamanian government insisted that the Treaty of 1903 which governed the relations between the two countries contained unnecessary provisions which placed an undue burden upon the people of Panama and created in the world at large a general misconception as to the independence of Panama. It was also claimed that some of the administrative regulations decreed by the American Government in the Canal Zone have restricted unjustly the commercial development of the Republic. The payment of the $250,000 annual rental for the Canal Zone in depreciated currency brought matters to a head during the past year. Inasmuch as the treaty of 1903 prescribed payment in gold, the Panamanian government refused payment in depreciated paper.

Negotiations were undertaken early in 1935 and on August 15 it was announced that a new basic treaty had been agreed upon to take the place of the treaty of 1903. Although the text was not published, news reports indicated that the United States gave up all right of intervention and in return no longer guaranteed the independence of Panama. The announcements from the Department of State also showed agreement had been reached on the annual rental payments. Payments since devaluation would be made in gold, but future payments would be made in devalued American dollars. The treaty was not presented to either the Senate of the United States or to the Panamanian legislature for approval before the end of the year.

END OF WAR IN THE CHACO

The League of Nations early in 1935 raised the arms embargo imposed on Bolivia but retained the embargo against Paraguay on the ground that Paraguay had refused to accept the solution offered by the League. Paraguay immediately sent its notice of withdrawal from the League. To try and break the impasse Argentina and Chile on April 1 invited the cooperation of Brazil, Peru, and the United States in a further effort to obtain peace. All accepted and a mediation commission was set up in Buenos Aires which formulated a truce agreement. The arrangement provided for a 12-day truce during which a neutral military commission was to fix the positions of the armies pending demobilization, which must take place within 90 days. It was also agreed that each state would reduce its military effectives to 5,000 men. Bolivia and Paraguay were to negotiate directly in a conference convoked in Buenos Aires by the mediators. If direct negotiations failed, the whole problem was to be submitted to the World Court.

Hostilities ceased on June 14 and the truce agreement was ratified by both powers on June 21. The peace conference immediately began its sessions, Hugh Gibson, United States Ambassador to Brazil, serving as the representative of the United States. Although the two armies had been demobilized by October, the conference had not made much progress on the settlement of the points at issue. The two powers could not even agree upon the exchange of prisoners of war. However, since the war was declared ended, President Roosevelt on Nov. 14, 1935, ordered the revocation of the United States embargo on the sale of arms and munitions to Bolivia and Paraguay, which had been in force since May 28, 1934.

UNITED STATES RELATIONS IN THE ORIENT AND NEAR EAST

By Albert Howe Lybyer

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THE ADVANCE OF JAPAN

The history of the Far East during the year 1935 was chiefly determined by the continuance in power in Japan of the militaristic group, which pursued generally and especially in North China, the policy based upon Japan's "exclusive responsibility for peace in Eastern Asia." In practice this noble sentiment was reduced to the persistent extension of Japanese control, with hardly lip-service to international agreements. The "peace" contemplated apparently involves the complete elimination of the rights, privileges, and authority of Western powers, including Russia, from Eastern and Southern Asia, and the substitution for local rule in all areas there of Japanese military, political, and economic control. Nor does any reason exist in the character of the process which would confine it to Eastern and Southern Asia. In short, the world appears to be confronted by perhaps the most deliberate and untrammeled attempt yet known in human history to make one imperialism universal—to unify the world under the leadership of the Japanese people.

This process is carried on with great intelligence, employing modern scientific methods and results of all kinds, but resorting readily to the application of military force. Its economic foundation is as yet precarious, so that the rest of the world, if reliably bound together, could stop Japan by economic sanctions. This possibility will disappear if Japan gets firmly in hand an adequate supply of cotton, coal, and oil. After that she can be defeated of her maximum purpose only by the use of superior military force in a world-shaking war.

Japan has today a larger number of human beings under obedience than any other powers except Russia and England. Should the process of 1935 keep on uninterrupted, not many years will elapse before all China will be added to produce an obedience of some 500,000,000 highly organized, resourceful, and determined people, filled with pride in a great past and a greater present, and bitterly resentful and revengeful because of a century's arrogant interference by the West. The time is not too late to find a peaceful exit from the difficulty, if the West will not merely check Japanese aggression and aid Chinese modernization, but will also by wise economic adjustment, relieve the Japanese fear of fatal restriction and actual starvation.

The West, including the United States, stood passively during 1935 upon previous principles, except for inquiries and reiterations of principles expressed previously. Secretary of State Hull issued a statement on Dec. 5 with regard to the "autonomy movement" in North China, in which he said: "It seems to this government most important in this period of world-wide political unrest and economic instability that governments and peoples keep faith in principles and pledges. . . . This government adheres to the provisions of the treaties to which it is a party and continues to bespeak respect by all nations for the provisions of treaties solemnly entered into for the purpose of facilitating and regulating, to reciprocal and common advantage, the contracts between and among the countries signatory." On the same day Sir Samuel Hoare in the House of Commons, after reporting on an inquiry addressed to the Japanese government with regard to the same movement and on the evasive Japanese reply, said that "the belief that Japanese influence is being exerted to shape Chinese internal political developments and administrative arrangements . . . can only do harm to the prestige of Japan and hamper the development, which we all desire, of the friendliest mutual relations between Japan and her neighbors and friends." In the same debate Sir Austin Chamberlain said that "China was powerless for its own defense and must be supported by the moral strength of the rest of the world, perhaps by sanctions and perhaps as a last resort by force of arms." He said further that only one power besides Britain could have acted with effect —the United States of America—and expressed the hope "that, if there is trouble, we shall have a partner and that, if extreme measures are taken, America will be beside us when that time comes."

JAPANESE FOREIGN POLICY

Foreign minister Hirota discussed before the Diet on Jan. 22, 1935 the state of Japanese foreign relations, in sentiments apparently "peaceful and friendly"; no causes of conflict could arise between Japan on the one hand and Britain and America on the other; the Soviet Government did not need to fortify its frontier with Manchukuo; China should "awake to the realization of the whole situation of East Asia and undertake to meet the genuine aspirations of our country.'' Trade barriers should not be built, because ''the advance of Japanese commodities on the markets of the world today is only the fruit of our nation's united and indefatigable labors for many years.'' A few days earlier, however, the ''unofficial spokesman'', Eiji Amau, had said that the huge armaments of the United States ''can only be necessitated by her intention to extend her aggressive operations into the Far East.''

JAPAN IN MANCHURIA AND MONGOLIA

General Minami in his extensive capacity of commander of Japanese forces in Manchuria, ambassador and actual dictator in Manchukuo, and governor of Kwantung, appointed an economic board to assist him; though technically ''bi-national'', the chairman was himself, and two of the Manchukuoan members were actually Japanese. He threatened the overthrow of any Tokio Cabinet that might oppose his continental policies. Troops were sent promptly into the province of Chahar, continuing the advance which characterized the year toward Japanese dominance of Inner and Outer Mongolia and the consequent physical separation of Russia and China. Resentment was shown at the reported increase of Russian influence even in Sinkiang. China was reminded of the events of 1931 and 1932, and threatened with similar disasters should she oppose the Japanese will. The Mongolian advance continued intermittently, containing near the close of the year the possibility, through the joint activity of Chinese and Manchukuoan agents and troops and of Mongolian exiles, of an invasion looking to the control of Outer Mongolia.

JAPAN AND CHINA

Early in May the Japanese Army in Manchuria began a new advance into North China after charging against the governor of Hopei province violations of the Tangku truce of 1933 and its subsequent extensions. Troops were moved south of the Wall on May 20. Chinese authorities were given an ultimatum on May 29, and the terms demanded were reported agreed to by the Nanking government on June 5. This was only preliminary to activities, probably related to the preoccupation of Europe with the Italian advance against Ethiopia, which became overt in October, looking toward the separation from China of five northern provinces—Hopei, Shantung, Shansi, Chahar, and Suiyuan—and the organization of a puppet state like Manchukuo. Since these provinces contain about 95,000,000 inhabitants, the project was colossal, representing in a way an aggression three times as large as that in Manchuria, and ten times as large as that proposed for Ethiopia. Yet General Tada hinted at much more, when he said that ''Japan's continental policy aims at the salvation of China's 400,000,000 exploited humans, and Japan will exterminate anyone obstructing her.'' Japanese agents worked steadily in furtherance of an artificial ''autonomy movement.'' Nov. 20 was set as the date when the five provinces would be separated from China. But unexpected resistances developed. The Ethiopian crisis was giving new power to the League of Nations. Much Chinese opinion was arising that war would be better than further yielding to Japan; General Chiang Kai-shek had some 300,000 troops not far from the borders of the five provinces. The government at Tokio, perhaps moved by hints from Britain and the United States, certainly with a wider outlook upon the world than that of the Japanese army, interposed a restraining hand. Japan wished to be in a respectable position for the Naval Conference. Instead of the five provinces, only 18 'counties' near the Great Wall, with a population of about 4,000,000, declared 'independence' on Nov. 25. Activities continued, however, toward the extension of this area.

Lord Lytton commented as follows on the situation (Dec. 5): ''I suppose that, having been allowed two or three years to maintain successfully that the people of Manchuria have spontaneously demanded their independence and put themselves under Japanese protection, it is not difficult for the Japanese now to maintain that similar eagerness is being shown by the people of North China south of the Great Wall. . . . The recent invasion of Abyssinia by Italy is a direct consequence of the fact that the League was unable to deal effectively with the aggression of Japan in the Far East.''

JAPAN AND RUSSIA

The sale to Japan of Russia's interest in the former Chinese Eastern Railway, now called the North Manchuria Railway, was completed on March 23, with the signing of documents and the delivery of the first of six equal semi-annual instalments of the total purchase price of ¥140,000,000: one-third is payable in cash, and two-thirds in goods; the payments are technically made by Manchukuo and are guaranteed by Japan. China had sent on March 16 an identical note to nine powers, protesting the sale and declaring a reservation of her rights. France also advanced claims based on the derivation of the original funds used for building the railway.

Foreign Commissar Litvinoff suggested two further agreements, a nonaggression pact and the demilitarization of the border between Siberia and Manchuria. But on July 1 he found it necessary to protest vigorously at Tokio against violations of the frontier by Japanese and Manchukuoan forces; Tokio replied sharply with denials. Near the end of the year Japanese relations to Outer Mongolia again led to strain of relations.

JAPAN AND THE LEAGUE OF NATIONS

Announcement was made on March 27 by Secretary-General Avenöl that ''the legal bond between Japan and the League ceases to exist. Japan no longer has any rights or obligations as regards the League.'' Japan objected to losing her ''rights'' to be represented on League committees, while certain persons affirmed that Japan's obligations, as derived from the Covenant and defined by the Lytton commission, could not be released by M. Avenöl.

JAPANESE INTERNAL POLITICS

Various signs indicated that many Japanese are strongly dissatisfied with the aggressive continental policy and the well-nigh independent action of the Army. When on Aug. 12 General Nagota was slain in Tokio by an officer of lower rank, War Minister Hayashi obtained the consent of the Supreme War Council to an order that soldiers should henceforth not take part in political activities. Nine days earlier, however, the Cabinet under army pressure had declared that supreme power rests, not with the State, but with the Emperor, the implication being that the civil government is not superior but is parallel to the defense organization in relation to the sovereign power in Japan. The possibility appeared slight at the close of 1935 of such a change in internal politics as would halt the aggression on the continent and relieve the tension in Japan's international situation.

JAPANESE FINANCES AND TRADE

The budget for the fiscal year which began April 1 called for ¥2,210,000,000, of which about 22 per cent was for the army and 24 per cent for the navy. Manchuria was expected to cost an additional Y 180,000,000. New borrowing was expected to provide ¥749,000,000 of the total income. The budget proposed for 1936 showed an increase of about three per cent, of which the army and the navy were to receive four-fifths. The amount to be borrowed was reduced, so that taxation must provide ¥131,000,000 more than for 1935, an increase of nine per cent.

Japanese foreign trade for 1934 showed an increase of 17.9 per cent over that for 1933, with an ''unfavorable balance'' of about two per cent, which tended to increase. Of the imports about 32 per cent were raw cotton, one-half from the United States. Of the exports, 22.7 per cent were cotton goods and 13.2 per cent raw silk. The total imports from the

United States, ¥715,000,000, were much greater than the exports to that country, ¥400,000,000 and the difference was increasing. To improve this situation the Japanese government suggested trilateral trade agreements involving the United States, Japan, and South American countries. A rapid increase in the export of cotton goods to America occurred early in the year 1935. As a result of protests, especially from New England mill owners, negotiations were begun to check this increase.

The oil monopoly in Manchuria became effective April 10. Japan had replied to protests from England and the United States, taking refuge behind the alleged independence of Manchukuo, and denying any violation of the Open Door policy, since Manchukuo is not a "recognized state." In replying, both Washington and London authorities held Japan responsible for the monopoly and reaffirmed the violation of the Open Door. But the action of neither went beyond the use of strong words. On June 17 announcement was made in London and Washington that British and American oil companies were withdrawing from Manchuria. Washington flatly charged Japan with violating the Nine-Power and other treaties which guaranteed the Open Door.

CHINESE GOVERNMENTAL AFFAIRS

General Chiang Kai-shek continued his campaign against Communists and coordinately his training of a great army by an expedition during the summer to the great western province of Szechuan. Apparently he succeeded in establishing there firmly the control of the Kuomintang. Part of the price paid for this success in the west was further yielding to Japanese demands, which led to strong criticism of General Chiang by patriotic Chinese. Students played an active part. On the other hand, Japanese sources suggested his removal from power, unless he would march more willingly with them. A crisis in August was settled by postponement. During the following weeks Chiang steadily gathered troops in the neighborhood of Nanking, so that when the Kuomintang National Congress met in November, the situation was favorable toward increasing his legal powers. The renewed advance of Japan had brought about a higher degree of Chinese unity and cooperation than in the six or seven previous years. In spite of apparent weakness in not resisting Japanese aggression, the nominal status of China in the world was improved in May, when the rank of minister to China was raised to that of ambassador by the governments of the great powers of the world, including the United States.

CHINESE FINANCES AND TRADE

Talk was heard early in the year concerning a loan by Japan to China in cash or credit or both. In March conversations were reported to have been held by Great Britain with the United States, France, and Japan, looking toward a four-power loan to China, the funds to be used to clear up floating debts and build railways and roads. The Japanese objected vigorously to any participation of other nations in a loan to China. The Chinese government succeeded on April 1 in borrowing $38,000,000 at home, to be repaid in ten annual instalments from customs revenues; two-thirds of this amount was to be used to help industry. In October a visit to Japan and China of Sir Frederick Leith-Ross apparently resulted in a proposal that Britain and Japan join in lending China £10,000,000 for currency stabilization. But on Nov. 3 China's currency was removed by government decree from a silver to a paper basis, in the hope of counteracting the disastrous effects of the high price of silver brought about by purchases on the part of the United States Treasury. China's total foreign trade for 1934 in comparison with that for 1933 lost 20.1 per cent. The United States contributed 21.9 per cent of the imports, and took 18.5 per cent of the exports.

CONDITIONS IN THE NEAR EAST

During 1935 the countries of the Near East maintained superficially quiet and peaceful conditions, both external and internal. But much activity existed in several directions. The Government and citizens of the United States were not greatly involved. Pressure continued toward the improvement of relations and the strengthening of ties among the Near Eastern nations. On Oct. 11, Turkey, Iran, and Afghanistan signed a nonaggression treaty, to which they invited Iraq and Saudian Arabia to adhere. The two states last mentioned became very friendly. King Ibn Saud appeared disposed to support in every peaceful way the advance of Arab cultural and economic unity. Turkey and Iraq negotiated. Iraq and Iran settled their frontier quarrels.

Turkey introduced before the League of Nations the request that she be permitted to re-militarize the zone of the Straits and to control them as regards the passage of ships of war. Greece, Russia, and the Little Entente appeared willing, but relations with Bulgaria were somewhat troubled. All countries of the Near East were keenly interested in the Italo-Ethiopian controversy. Nearly all sympathized with Ethiopia. Turkey was alarmed at the land and air forces which Italy assembled at Rhodes. Palestine and Egypt were concerned about the vast military preparations of Britain against possible war with Italy:—the railroads from Macan to Akaba and from Cairo to Suez, the roads connecting Beersheba, Akaba, and Suez, the fortifications and enlarged airports at Haifa, Jaffa, Akaba, Alexandria and elsewhere and the increase of garrisons and fleets. Italian propaganda was disclosed, particularly in Syria and Palestine.

JAPAN AND THE NEAR EAST

Even more significant perhaps was the rapid increase of Japanese diplomatic and economic action in Western Asia, which included enlargement of regular diplomatic and consular establishments, encouragement of Moslem worshippers in Japanese areas, the sending of special economic missions, and a continual pressure to sell wares at low prices. The last mentioned activity interfered with efforts toward increase of local manufacture, and led to restrictions on Japanese imports. On the other hand, many objects were brought by Japanese low prices within the reach of larger groups of people.

ECONOMIC AND CULTURAL ADVANCE IN THE NEAR EAST

Conditions continued prosperous in Palestine, because the Jews brought in much capital. Syria and Arabia continued depressed, although High Commissioner De Martel strenuously pushed public works. In Egypt, Turkey, Iraq, and Iran gradual improvement was evident. The two last named were helped by actual and prospective royalties from petroleum, which they planned to use for railroads, roads, schools, and other public buildings and works.

Attention was given in all the Near Eastern countries, especially in Turkey and Iran, to cultural, linguistic, and educational advance. Riza Shah Pehlevi, on his visit to Turkey in 1934, was greatly impressed with the aims and achievements of President Kemal Atatürk, and is following him carefully at a distance of about ten years. Western hats are being adopted, women's veils are going, and an Academy is revising the language. Such wholesale deliberate changes in vocabulary, grammar, writing, and teaching of language, with pressure toward compulsory adoption, have never been known before in the world, as now are well advanced in Turkey and well begun in Iran. These and other countries are rapidly increasing the spread of education, renovating old schools and universities, and founding new faculties in ambitiously planned state universities.

PROBLEMS OF INTERNAL AFFAIRS

A few observations about specific countries may be added. Turkey gave women equal political rights, and elected 17 women to the National Assembly. The railway network was extended. Foreign railways were purchased by the government, as well as the telephone system in Istanbul. Syria gave evidence of much political dissatisfaction, but the High Commissioner devoted all his attention to economic measures. In Palestine, the immigration of 42,000 Jews alarmed the Arabs greatly, but no explosion occurred. Late in the year High Commissioner Wauchope brought up definitely the plan for a Legislative Council, to contain 14 Arabs, seven Jews, and seven government representatives. Vigorous agitation in Egypt, combined with a general disposition to support the British against the Italians, led the British late in the year to consent to the reestablishment of constitutional government.

FOREIGN SERVICE OF THE UNITED STATES

By Herbert C. Hengstler

Foreign Service Administration, State Department

ADMINISTRATION

Regulations.—In connection with the Foreign Service Act of Feb. 23, 1931, the administrative regulations embodied in Executive Orders (Nos. 5642/4, June 8, 1931) are of special importance. These regulations give practical effect to some of the chief purposes of the act. They set up machinery whereby it is put into operation by providing for a Board of Foreign Service Personnel, a Board of Examiners, a Foreign Service Officers' Training School, and a Foreign Service Officers' Training School Board.

Board of Foreign Service Personnel.—The duties of this Board are to examine into the character, ability, efficiency, experience and general availability of all members of the Service with a view to promotions, transfers and separations; to consider controversies or delinquencies among Service personnel, and to recommend those officers, who have shown special capacity, for promotion to the grade of minister. The Board is composed of not more than three Assistant Secretaries of State, one of whom shall be the Assistant Secretary having supervision over the Division of Foreign Service Personnel, who shall be chairman. The Chief of the Division of Foreign Service Personnel and one other member of the division may attend the meetings of the Board, but are not entitled to vote in its proceedings.

Board of Examiners.—The duties of the Board are to formulate rules to determine the scope and method, and hold examination of applicants for commission to the Foreign Service, and to determine those who are fitted for appointment. The examinations, which shall be both written and oral, are open only to Americans of good standing between the ages of 21 and 35 specially designated by the President for examination, who have been citizens of the United States for at least 15 years. American clerks and employees in the Foreign Service are granted certain exceptions concerning age and may be exempted by the Board from the written examinations. The Board is composed of not more than three Assistant Secretaries of State designated by the Secretary of State, the Chief of the Division of Foreign Service Personnel, and the Chief Examiner of the Civil Service Commission.

OFFICERS TRAINING SCHOOL

Purposes.—The purpose of this school is to provide a term of instruction in the Department of State as a period of probation for those successfully passing the examinations given by the Board of Examiners, and to judge, during this period, the new appointees to the Service as to their qualifications for advancement and assignment to duty as a Foreign Service officer. The governance of the school to be set forth in rules and regulations prescribed by the Secretary of State. The school is under the direction of the Foreign Service School Board.

Foreign Service School Board.*—The duties of the Board are to act in all matters concerning the functions of the school with the approval of the Secretary of State; to select the director of the School from among the officers of the Foreign Service with the approval of the Secretary of State, and in its discretion to select other instructors from among the qualified officers of the Department of State, the Foreign Service, the executive departments of the Government, and other available sources. The Board is composed of the Assistant Secretaries of State composing the Board of Foreign Service Personnel, one Foreign Service officer assigned for duty in the Division of Foreign Service Personnel, and the director of the School.

PERSONNEL

Changes.—During 1935 no examinations were held due to the fact that the list of candidates eligible for appointment was adequate to provide for prospective vacancies.

Promotions from the Ranks.—Since 1925, when the policy was formulated of promoting outstanding officers of the Service to the grade of Minister and Ambassador instead of recruiting them solely from civil life, there have been marked advances. During 1935, eight Ambassadors out of a total of 17, and 17 Ministers out of a total of 37 have been drawn from the ranks of the Foreign Service. In addition, the Chargé d'Affaires *ad interim* at Addis Ababa, Ethiopia, the Diplomatic Agent and Consul General at Tangier, Morocco, and the Minister Resident and Consul General at Baghdad, Iraq, are Foreign Service Officers.

Losses to the Service.—During 1935, there were seven deaths, 21 retirements and eight resignations from the Foreign Service. At present the Service totals 692 career officers.

CLASSIFICATION, FOREIGN SERVICE, 1935

	Salary	Number as of December 31, 1935
Heads of Missions		
Ambassadors..........	$17,500	17
Ministers.............	12,000	1
Ministers.............	10,000	36
Diplomatic Agent and Consul General (Tangier)..........	FSO*	1
Minister Resident and Consul General (Baghdad).........	FSO*	1
Charge d'Affaires ad interim (Addis Ababa)...............	FSO*	1
		57

* Foreign Service Officer.

Foreign Service Officers		
Class 1.........	$9,000–$10,000	33
Class 2.........	8,000– 8,900	32
Class 3.........	7,000– 7,900	40
Class 4.........	6,000– 6,900	59
Class 5.........	5,000– 5,900	59
Class 6.........	4,500– 4,900	85
Class 7.........	4,000– 4,400	90
Class 8.........	3,500– 3,900	95
Unclassified (a) .	3,000	80
Unclassified (b) .	2,750	73
Unclassified (c) .	2,500	46
		692
Clerks—Senior		
Class 1.........	4,000	2
Class 2.........	3,750	2
Class 3.........	3,500	7
Class 4.........	3,250	16
Class 5.........	3,000	60
Clerks—Junior		
Class 1.........	2,750	62
Class 2.........	2,500	130
Class 3.........	all under 2,500	1,333
		1,612

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*—For growth and development of the Foreign Service of the United States see THE AMERICAN YEAR BOOK for 1934, p. 50.

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

DIPLOMATIC PERSONNEL

AMBASSADORS

	ACCREDITED BY UNITED STATES		ACCREDITED TO UNITED STATES	
Argentina	Alexander W. Weddell	1933	Señor Don Felipe A. Espil	1931
Belgium	Dave Hennen Morris	1933	Count Robert van der Straten-Ponthoz	1935
Brazil	Hugh S. Gibson	1933	Mr. Oswaldo Aranha	1934
Chile	Hoffman Philip	1935	Señor Don Manuel Trucco	1933
China	Nelson T. Johnson	1935	Mr. Sao-Ke Alfred Sze	1935
Cuba	Jefferson Caffery	1934	Señor Dr. Guillermo Patterson y de Jáuregui	1935
France	Jesse Isidor Straus	1933	Mr. André de Laboulaye	1933
Germany	William E. Dodd	1933	Herr Hans Luther	1933
Great Britain	Robert Worth Bingham	1933	The Honorable Sir Ronald Lindsay	1930
Italy	Breckinridge Long	1933	Signor Augusto Rosso	1933
Japan	Joseph C. Grew	1932	Mr. Hirosi Saito	1934
Mexico	Josephus Daniels	1933	Señor Dr. Don Francisco Castillo Nájera	1935
Peru	Fred Morris Dearing	1930	Señor Don Manuel de Freyre y Santander	1930
Poland	John Cudahy	1933	Mr. Stanislaw Patek	1933
Spain	Claude Gernade Bowers	1933	Señor Don Luis Calderón	1934
Turkey	Robert P. Skinner	1933	Mr. Mehmet Münir Ertegun	1934
Union of Soviet Socialist Republics	William C. Bullitt	1933	Mr. Alexander Antonovich Troyanovsky	1934

MINISTERS

	ACCREDITED BY UNITED STATES		ACCREDITED TO UNITED STATES	
Albania	Hugh Gladney Grant	1935	Mr. Faik Konitza	1926
Austria	George S. Messersmith	1934	Mr. Edgar L. G. Prochnik	1925
Bolivia	Fay A. des Portes	1933	Señor Dr. Don Enrique Finot	1932
Bulgaria	Frederick A. Sterling	1933	Mr. Stoyan Petroff Tchomakoff	1935
Canada	Norman Armour	1935	The Honorable William Duncan Herridge	1931
Colombia	William Dawson	1935	Señor Don Miguel López Pumarejo	1935
Costa Rica	Leo R. Sack	1933	Señor Don Manuel González-Zeledón (Minister Resident)	1934
Czechoslovakia	J. Butler Wright	1934	Dr. Ferdinand Veverka	1928
Danzig, Free City of	Waldemar J. Gallman (Consul in Charge)	1934	—	
Denmark	Mrs. Ruth Bryan Owen	1933	Mr. Otto Wadsted	1930
Dominican Republic	H. F. Arthur Schoenfeld	1931	Señor Don Andres Pastoriza	1935
Ecuador	Antonio C. Gonzalez	1935	Señor Capitán Colón Eloy Alfaro	1933
Egypt	Bert Fish	1933	Mr. Mohamed Amine Youssef	1935
El Salvador	Frank P. Corrigan	1934	Señor Dr. Don Hector David Castro	1934
Estonia	John Van A. MacMurray	1933	Mr. Charles Kuusik, Acting Con. Gen'l. in N. Y. C. in charge of Legation	1932
Ethiopia	Cornelius Van H. Engert (Chargé d'Affaires ad interim and Consul General)	1935	—	
Finland	Edward Albright	1933	Mr. Eero Jarnefelt	1935
Greece	Lincoln MacVeagh	1933	Mr. Demetrios Sicilianos	1935
Guatemala	Matthew E. Hanna	1933	Señor Dr. Don Adrian Recinos	1928
Haiti	George A. Gordon	1935	Mr. Albert Blanchet	1933
Honduras	Leo J. Keena	1935	Señor Dr. Don Miguel Paz Baraona	1933
Hungary	John Flournoy Montgomery	1933	Mr. John Pelényi	1933
Iran	William H. Hornibrook	1934	Ghaffar Djalal	1933
Iraq	Paul Knabenshue	1933	—	

MINISTERS (Continued)

	ACCREDITED BY UNITED STATES		ACCREDITED TO UNITED STATES	
Irish Free State	Alvin Mansfield Owsley	1935	Mr. Michael MacWhite	1929
Latvia	John Van A. MacMurray	1933	Mr. Alfred Bilmanis, Con. Gen'l. in N. Y. C. in charge of Legation	1935
Liberia	Lester A. Walton	1935	————	
Lithuania	John Van A. MacMurray	1933	Mr. Povilas Žadeikis	1935
Luxemburg	Dave Hennen Morris	1933	————	
Monaco	Austin C. Brady (Consul in charge)	1933	————	
Morocco	Maxwell Blake (Diplomatic Agent)	1925	————	
Netherlands	Grenville T. Emmet	1934	Jonkheer H. M. van Haersma de With	1934
Nicaragua	Arthur Bliss Lane	1933	Señor Dr. Don Henri de Bayle (Chargé d'Affaires ad interim)	1933
Norway	Anthony J. Drexel Biddle, Jr.	1935	Mr. Wilhelm Munthe de Morgenstierne	1934
Palestine	Ely E. Palmer (Consul General in charge)	1933	————	
Panama	George T. Summerlin	1935	Señor Dr. Ricardo J. Alfaro	1932
Paraguay	Findley B. Howard	1935	Señor Dr. Don Enrique Bordenave	1933
Portugal	Robert Granville Caldwell	1933	Dr. João Antonio de Bianchi	1933
Rumania	Leland Harrison	1935	Mr. Charles A. Davila	1929
San Marino	Joseph E. Haven (Consul in charge)	1925	————	
Siam	James Marion Baker	1933	Phya Abhibal Rajamaitri	1935
Sweden	Laurence A. Steinhardt	1933	Mr. W. Boström	1926
Switzerland	Hugh R. Wilson	1927	Mr. Marc Peter	1920
Syria	Christian T. Steger (Consul in charge)	1931	————	
Union of South Africa	Ralph J. Totten	1930	Mr. Ralph William Close	1934
Uruguay	Julius G. Lay	1935	Mr. J. Richling	1934
Venezuela	Meredith Nicholson	1935	Señor Dr Don Pedro Manuel Arcaya	1930
Yugoslavia	Charles S. Wilson	1933	Mr. Constantin Fotitch (Chargé d'Affaires ad interim)	1935

THE LEAGUE OF NATIONS AND ASSOCIATED AGENCIES

By The Associates

The Geneva (Switzerland) Research Center

AMERICAN RELATIONS AND COOPERATION

The relations of the United States with the three principal international agencies during 1935 were as uneven as the world situation which formed their background. The United States entered into full membership in the International Labor Organization, rejected membership in the Permanent Court of International Justice, and pursued a middle course in the activities of the League of Nations. Her relationship to the Italo-Ethiopian dispute concorded to a certain extent with the action of the League, and at the same time was marked by the entry into force of the Neutrality Act of 1935, which threw up the whole fundamental question of America's basic relationship to the world which it may take years to solve. While the traditional policy of neutrality, based on "freedom of the seas", seemed under revision, the United States treated both parties to the dispute with juridicial equality, leaving, however, no doubt as to her reprobation of aggression. The question remains whether in actual fact the United

States had come nearer or gone further away from general cooperative action.

The United States cooperated on common lines in the Chaco dispute, followed sympathetically the Far Eastern activities, took no part in the Saar plebiscite, the Marseilles assassination solution, or in the economic and financial discussions of the Assembly, although the Secretary of State warmly endorsed the results of the latter, and Government experts participated in the work of special technical committees. American response to League activities in the humanitarian and social field ran all the way from inability to take part to complete participation. Congress took more part in 1935 than, heretofore, both Houses passing appropriations for the League's anti-drug work and membership in the Labor Office, and the Senate re-ratifying the Arms Traffic Convention, while rejecting the Court Protocols.

ITALY AND ABYSSINIA

A minor dispute at the outset of 1935, the Italo-Ethiopian dispute resulted in open aggression in Africa, economic sanctions decreed for the first time at Geneva, and search for a new policy in Washington. The League and the United States were involved as to specific policies and mutual relations. The Ethiopian Government appealed to the United States in June under the Kellogg Pact, and President Roosevelt replied that the United States "would be loath" to see either Italy or Ethiopia resort to other than pacific means for settlement. In July, Secretary Hull called to the attention of the Italian, French and British Ambassadors America's "increasing concern over the situation", and in August President Roosevelt voiced the hope of the United States that "an amicable solution" would be found. At the end of August a concession in Abyssinia granted to an American company was relinquished at the insistence of the Government. During the September Assembly President Roosevelt reminded Italy and Ethiopia of the "pledge given in the Pact of Paris", and electrified Geneva on Oct. 5 by putting into effect the Neutrality Act of August, 1935 on the basis of the "state of war", which the League's Committee of Thirteen on the following day had declared to exist with Italy named as the aggressor. Shortly afterwards the League adopted the same list of arms to be embargoed as had President Roosevelt, though applying it only against Italy.

In the application of economic and financial sanctions, the League Committee discussed the status and policy of non-member states, to whom all the documents were transmitted with a request for communication or notification "of any action which it may be taking in the circumstances". Secretary Hull replied that the United States was pursuing a course of independent action for the purpose of keeping out of the war, but viewed "with sympathetic interest . . . the efforts of other nations to preserve peace. . . . "

The Government discouraged trade with the belligerents, prohibited export of arms to either party, and in November published reports on the increased export in oil, copper, trucks, etc., which, though not prohibited as arms, were essentially war materials.

On Dec. 6 the President pointed out that "far from standing aloof" the Government had done its share towards the restoration of peace and had "gone beyond the actions so far taken by other nations". Acting in their private capacity as American citizens, Everett A. Colson, on the recommendation of the State Department, was advisor to the Emperor of Abyssinia; and Professor Pitman B. Potter, was one of the Ethiopian arbitrators for the Walwal incident. The arbitrators unanimously decided on Sept. 2, after protracted meetings and delays, that responsibility for the dispute could not be placed.

EUROPE

Two major crises, that of the Saar valley, and that of the assassinations of King Alexander of Yugoslavia and Foreign Minister Barthou of France were solved by the League without official participation by the United States, although the United States was affected by both as regards peace and disarmament. The Saar plebiscite was carried out in January, and the territory returned to Germany. Miss Sarah Wambaugh, of Cambridge, a foremost authority on plebiscites, was appointed by the Council as technical adviser and Professor James K. Pollock of the University of Michigan, served as president of one of the voting offices. One of the aftermaths of the Marseilles assassinations was a draft Convention for the repression of acts of terrorism, and to a circular letter on the subject, the United States replied that, while it viewed such action sympathetically, it did not, at the moment, have any specific suggestions to make.

FAR EAST

Japan.—The Far Eastern situation, smouldering since the Manchurian crisis, during which the United States was represented at the Council of the League, threatened to burst into flames, and to involve the United States and the League both in the Pacific area and in their mutual relationship. During the year 1935, Japan ceased to belong to the League; the USRR became an active member, and the other nations continued to follow the policy of ''non-recognition'' laid down by Secretary of State Stimson in 1932. Japan's withdrawal from the League introduced a new element in the lives of the Pacific nations, in part counter-balanced by Soviet participation, and threatened, in her denunciation of the Washington and London Naval Treaties, to affect fundamentally the question of disarmament.

Philippines.—Another Pacific development affecting both the United States and the League was the institution of the Commonwealth of the Philippines, with which, even before its independence, there had existed technical relations, with the work of the League's Epidemiological Intelligence Bureau, with the League's malaria work and the inquiry into traffic in women. The platform of the dominant political party in the Islands provided for League membership. The development of the new state, developing under American aegis is more advanced mandated areas are evolving under League aegis, will be of considerable importance to all governments or institutions interested in the Pacific area.

LATIN AMERICA

The triangular relationship between the League, the Latin-American States and the United States, delicate from the outset was accentuated this year by the Italo-Ethiopian dispute. The full identification with the League of the American member states, despite the serious sacrifices entailed, may well be a significant point in that relationship.

Pan-American Union.—The League Assembly received the report of the Committee set up by the 1934 Assembly resolution to study cooperation between League and the Pan-American Union. Recognizing the desirability of closer contacts, the Assembly directed the Secretary General to maintain such relations for mutual information with the Director of the Pan American Union as may prove desirable. Meanwhile, the committee appointed to the governing body of the Union in Washington continued its study to be presented to the next Pan-American Conference.

Bolivia-Paraguay. — Throughout 1935, the League, the South American states and the United States steered their various policies to re-establish peace in the Chaco and to render permanent the cessation of hostilities. In January the League Committee recommended that the arms embargo ''should not continue to be enforced against Bolivia'' since it was felt that Paraguay had not accepted the recommendations of the 1934 Assembly. Paraguay cabled that the recommendations had not been rejected and that she felt, on the basis of the arms embargo, compelled to withdraw from the League. Meanwhile the United States had been notified of League action for any useful purpose which the information might have for the American Government.

The League Committee in March

discussed the advisibility of applying sanctions, but postponed the convocation of the Assembly until May in hopes of an imminent settlement. A mediatory group composed of the Argentine, Brazil, Chile, Peru and the United States, together with Bolivian and Paraguayan representatives met in May and opened direct negotiations. The report of these negotiations were subsequently approved by the Assembly, and a draft protocol was signed June 13. The League Committee then recommended that the embargo be raised, and was informed by Hugh R. Wilson, American Minister to Switzerland, that the United States had rescinded its double embargo as from Nov. 29, 1935. The 1935 Assembly expressed gratification at the cessation of hostilities. Thus through the combined efforts of the League, the American States and the United States, the dispute which had lasted for over half a century, seemed well on its way to settlement.

Peru-Colombia.—The Leetitia dispute, which in 1933 brought Peru and Colombia to an open conflict, took the League of Nations to the Upper Amazon, and effected close cooperation between the League and the United States, was finally liquidated in 1935. Unlike the Chaco dispute, the United States had from the outset been represented on the League Committee by Minister Wilson. At the end of September, 1935, Colombia and Peru notified the League that the instruments of ratification of the Agreement signed by them and by the League Commission had been exchanged.

DISARMAMENT

The League disarmament work was almost completely suspended in 1935, a year in which Japan's and Germany's withdrawals from the League became effective, found Italy at war, and Japan denouncing the naval treaties. However, the Committee on Miscellaneous Provisions discussed the composition and powers of a permanent disarmament commission with a view to facilitating an eventual general disarmament agreement. Although the United States had long opposed such a commission, American Minister Hugh R. Wilson and Ferdinand L. Mayer, Counsellor of Embassy, cooperated actively in the work of the Committee.

The Committee for the Regulation of the Trade in and Private and State Manufacture of Arms and Implements of War, stimulated by the Senate munitions inquiry, discussed the whole question with the American draft as a basis sponsored by Mr. Wilson, Mr. Mayer and Colonel Strong. The decisions taken by the Committee were utilized by President Roosevelt as a basis for the arms embargo of Oct. 5.

In June the Senate re-ratified the Convention for the Supervision of the International Trade in Arms, adopted in Geneva in 1925 in lieu of the rejected St. Germain Treaty. The reservation made by the Senate in 1934 as to the application of the Convention to the Persian Gulf was not included in the re-ratification. The Neutrality Act of August 1935 created a National Munitions Control Board which revolutionized the arms-traffic situation of the United States. At the end of December, the London Naval Conference brought together delegates of the United States, Great Britain, France, Italy and Japan, and a League observer. Thus an otherwise unpromising year found further steps taken at Geneva and Washington towards facilitating a general disarmament convention; resolving naval disarmament difficulties at London, and controlling the arms traffic of the United States.

FINANCE, ECONOMICS AND TRANSIT

The relations between the League and the United States were profoundly affected during 1935 by the continued nationalistic economics hampering international trade and by the sanctions taken against Italy. Little constructive work was accomplished to set international trade moving freely, although the United States pursued a vigorous policy of bilateral trade agreements. The United States continued to associate itself with such economic and financial cooperation as the League initiated and expressed its approval of the conclusions of the Second Committee of the Assembly in a letter transmitted by the Secretary of State through Prentiss Gilbert, American Consul in Geneva, to the chairman of the Second Committee.

Oscar B. Ryder, member of the Tariff Commission, participated in the work of a committee of experts which drew up a report on Clearing Agreements in March; and T. P. White, of the Department of Agriculture, assisted in formulating an international convention on the import and export of meat and meat preparations which was later transmitted by the Council to the various states preparatory to a conference. Douglas P. Miller, Acting Commercial Attaché at Berlin, and Edwin G. May, Treasury Representative at Berlin, cooperated in the drafting of an international agreement on commercial propaganda.

American economic thought was unofficially represented by Professor James Harvey Rogers in the Economic Committee, the central economic agency of the League, composed of authoritative persons not formally representing their governments. This Committee laid down the broad lines of a report that formed the basis of the Second Committee debate. Other Americans who participated in League economic and financial work were: Dana Durand, of the Tariff Commission, on the Committee of Statistical Experts; Mitchell B. Carroll, on the Fiscal Committee, and Royall Tyler, Representative of the League Financial Committee in Hungary.

Further progress was made in 1935 in the Communications and Transits Organization as regards the pollution of the sea by oil, a problem in which the United States is greatly interested. P. T. Culbertson, assistant chief of the Western European Division of the State Department, attended a meeting of experts in October at which a draft convention was completed. The United States Government also transmitted data on National Public Works.

HEALTH

The United States was represented at the annual meeting of the Health Committee in October by Surgeon General Cumming of the United States Public Health Service, who was named to the Committee's Bureau, which authorized, among other things, the study of the use of codeine by drug addicts, a question raised in the Opium Committee by the United States and Canada.

The Committee expressed its "sincere gratitude to the International Health Division of the Rockefeller Foundation, which had generously decided to continue in 1936 and 1937 the financial assistance which it has given since 1921 to certain activities of the Health Committee."

Dr. G. W. McCoy, director of the National Health Institute, attended the meetings of the Permanent Standards Commission and of the Biological Standardization Conference which adopted a series of measures for the application of standards of sera and bacteriological products.

During 1935 public health officers from Sweden, Denmark, England, France the Netherlands and Yugoslavia studied recent measures of the Federal Government in hygiene and social protection on a trip to the United States organized by the League. Dr. Frank G. Boudreau, American member of the League Health Organization, accompanied the group.

Following out the 1935 Assembly resolution which authorized a study of nutrition, the Health Committee nominated a committee of experts, among whom were: Dr. E. V. McCollum, Dr. Mary Schwartz Rose, and Dr. W. Sebrell.

DRUGS

American cooperation with the League has gone furthest in that League activity which has itself had fullest development: anti-drug work. Stuart J. Fuller, assistant chief of the Far Eastern Division of the State Department, attended the Opium Advisory Committee meeting in May, assisted by Dr. H. J. Wollner of the United States Treasury. The American representatives presented reports on drug seizures, detection of drugs, and curing of addicts. The United States was represented at a meeting of the League Council in connection with the composition of the Permanent Central Opium Board, and for the first time Congress made a direct appropriation for League work, allotting $12,086 for anti-drug work. Apart from official cooperation, Herbert L. May continued to take an active part in the meetings of two of the permanent bodies set up to apply the Opium Convention—The Permanent Central Opium Board and the Supervisory Body.

SOCIAL AND HUMANITARIAN

Child Welfare.—The United States appointed in April, 1935 Miss Katharine Lenroot of the Department of Labor as a regular member of the Advisory Committee for the Protection and Welfare of Children and Young People. Previously, the United States had been represented in a consultative capacity only. Dr. Martha M. Eliot, also of the Department of Labor, replaced Miss Lenroot at the spring sessions of the Child Welfare Committee and the Traffic in Women Committee. The former adopted a detailed report on the cinema and young people, institutions for neglected and delinquent minors, and blind children. The latter discussed among other things, the conference of Far Eastern countries, proposed by the Commission of Inquiry, presided over by Bascom Johnston. The United States will participate in this conference.

Prisons.—The United States notified the League that, despite the limited control exercised over prisons and penitentiaries by the Federal Government, arrangements had been made for Federal inspection of prisons, and that the Standard Minimum Rules for the Treatment of Prisoners would be discussed at the next session of the American Prison Congress.

Indigent Foreigners and Refugees.—The draft Convention for aid to indigent foreigners had been sent to governments for observation, and the United States replied that for practical reasons, it would not be able to subscribe to the convention. However, copies of the August, 1935 Social Securities Act were forwarded to the League. On the question of settlement of refugees, the United States pointed out that immigration restrictions prevented group immigration. In the cognate field of refugees, James G. McDonald continued, until his resignation to the Council at the end of the year, in the post of High Commissioner for refugees coming from Germany.

INTELLECTUAL COOPERATION

Cultural agencies in the United States, both official and private, continued during 1935 to cooperate in the organization of international intellectual life which the League has from the outset urged as one of the essential bases of world peace and understanding. At the meeting in July of the Plenary Committee on Intellectual Cooperation, Dr. Waldo G. Leland, secretary of the American Council of Learned Societies, replaced Professor James T. Shotwell, and was assisted by Malcolm W. Davis, associate director of the European Center of the Carnegie Endowment. The discussions resulted in a 60-page report, and specific recommendations on questions such as the scientific study of international relations, bi-lateral and regional agreements on cultural cooperation, broadcasting and peace, the cinema, the social sciences, and special problems relating to the Americas and Japan.

International Peace.—Just before this meeting, the Advisory Committee on League of Nations Teaching met, with Malcolm Davis as American member, to consider the education of young people in the ideals of international peace and cooperation. Of particular importance also was the Plenary Conference on Collective Security organized in London in June by the Paris Institute of International Intellectual Cooperation. A strong American delegation was present, consisting of Hamilton Fish Armstrong, Allen W. Dulles, Philip C. Jessup and Dr. Waldo G. Leland, representing the Council on Foreign Relations, and Malcolm W. Davis of the Carnegie

Endowment. Mr. Dulles was named chairman, and Mr. Jessup *rapporteur* of the American delegation, presented one of the basic memoranda of the Conference, on "The United States and the Stabilization of Peace." These conferences have now become a permanent feature of international life, the next being scheduled for 1937 on the much discussed questions of possibilities of peaceful change and adjustments. The Rockefeller Foundation has contributed $25,000 for a better coordination of research and for cooperation between the various institutions.

Unemployment.—Finally, the Institute in Paris drew up a report on measures taken to combat unemployment among intellectuals in 33 countries, including the United States, and it was studied by a committee of experts in Geneva in April and its recommendations transmitted to the International Labor Conference.

Broadcasting.—Officially the United States transmitted in July a further reply to the League's draft convention regarding broadcasting in the cause of peace. The Secretary of State pointed out that efforts were being made to obtain the cooperation of the broadcasting companies "to promote a better knowledge of the civilization and the conditions of life of other peoples" in the cause of peace. The 1935 Peace Award by the Carnegie Endowment was given to the League wireless station, frequently used by the United States Government when official documents are transmitted.

PERMANENT COURT OF INTERNATIONAL JUSTICE

American membership in the World Court which, after 12 years of effort was almost universally accepted as certain to be consummated during 1935, was most unexpectedly refused by the Senate on Jan. 29 through lack of a two-thirds majority.

The United States had first called for such a court at The Hague Conference in 1899, and Elihu Root helped to draft the existing statute in 1920. On June 27, 1926, the Senate ratified it with reservations, by a vote of 75-17. These reservations were considered at an international conference in Geneva in September, 1926. The year 1935, however, witnessed a definite attempt at final action which failed, owing, it was alleged, to opposition from the Hearst press and from Father Coughlin.

In September, Frank B. Kellogg, successor to Charles Evans Hughes, who had followed the original American judge to the Court, John Bassett Moore, tendered his resignation on the ground that circumstances rendered his further attendance impossible. Another vacancy had been caused by the death of Judge Schücking. Thus a new election became necessary, and in December the members of the American National Group nominated Dr. Manley O. Hudson, Bemis Professor of International Law at the Harvard Law School, and Professor Viktor Bruns of Berlin to fill the vacancies. The election will take place at the next session of the Assembly.

INTERNATIONAL LABOR ORGANIZATION

American Delegation.—The United States during 1935 assumed its full share of the responsibilities and the benefits of membership in the International Labor Organization. A complete delegation participated in the 19th Session of the General Conference in June and in a preparatory maritime meeting in November; representatives of the United States took part in all the sessions of the Governing Body in 1935; American officials attended the meetings of the technical committees called during the year to deal with special social and labor problems, and American citizens joined the staff of the International Labor Office. In order to complete the liaison between Geneva and Washington, the Department of Labor established an office in Geneva under a Labor Commissioner, William G. Rice, Jr., while the Washington Office of the Labor Organization was also strengthened to meet new demands.

International Labor Conference.—Miss Grace Abbott, former Chief of the Children's Bureau of the Department of Labor, headed the first official delegation to participate in a session of the International Labor Conference in Geneva in June 1935. That delegation consisting of Miss Abbott and Dr. Walton Hamilton for the Government, Dr. Dan Tracy representing American labor, and Sam Lewisohn representing the employers, made a definite contribution to the success of the Conference. The outstanding conclusion reached by the Conference was agreement on the principle of the 40-hour week with the maintenance of the standard of living. The adoption of this convention was largely due to the presence of an American delegation able to speak from first hand experience.

Santiago Conference.—The proposal of the Chilean Government to hold a regional conference in Santiago in January, 1936 was warmly supported by the American delegation which suggested that two questions should be considered by the Santiago Conference, namely child labor and a study of the whole textile question.

Maritime Meeting.—A tri-partite delegation consisting of Robert Bruère, government representative, Samuel Aitkin, shipowner, and Andrew Furuseth, president of the International Seamen's Union, participated in the work of the technical preparatory maritime meeting, held in Geneva in November. Mr. Bruère made clear the desire of the American Government to discuss any proposals that would enable the groups to understand each other and to move towards a satisfactory solution of the problems of manning and hours of labor. The meeting finally adopted unanimously reports on the questions of manning and hours of labor, and of holidays with pay, and it was agreed that a final decision would be taken at a Maritime Conference in the autumn of 1936.

Americans on Governing Body.—Although the United States had not at the time been made a member of the Governing Body, Dr. Isador Lubin, Commissioner of Labor Statistics of the Department of Labor, and James Wilson, for the American Federation of Labor, accepted the invitation of the Governing Body to attend the session in January, 1935. During the session the American Government was invited to sit on the Governing Body as one of the eight states of chief industrial importance, and subsequently the worker group and the employer group respectively, invited representatives of the American Federation of Labor and the United States Chamber of Commerce to occupy seats on the Governing Body.

The 1935 sessions of the Governing Body permitted 11 Americans to join in the debates: as government representatives, Mr. Saunders, Assistant to the Secretary of Labor, Mr. Wyzanski, Solicitor of the Department, and Mr. Rice, Labor Commissioner; as employers's rèpresentatives, Mr. Dennison; and as workers' representatives, Mr. Green sent as substitutes first David Dubinsky, then Dan Tracy, and later John Possehl. At the same time continuity of policy on behalf of the Government was maintained by the continual attendance of Mr. Rice at all meetings. The American representatives at the Governing Body made special efforts to accelerate the consideration of reduction of hours in different industries and the raising of the age of admission of children to employment. American citizens during 1935 have also played large rôles both on the committees of the Governing Body and on other Labor Organization committees.

Miscellaneous.—Miss Faith Williams, Chief of the Cost of Living Division of the Department of Labor, took a leading part in the discussion in December of the Committee of Experts on Nutrition. Miss Lena Madesin Phillips is a member of the Correspondence Committee on Women's Work, and Dr. L. R. Thompson and Dr. A. E. Russell of the Division of Public Health Service are to be members of the Correspondence Committee on Industrial Hygiene. Two important appointees to the staff of the International Labor Office were John G. Winant, former Governor of New

Hampshire, as Assistant Director and Lewis L. Lorwin, formerly of Brookings Institution, as Economic Advisor. After Mr. Winant had served for three months in Geneva, however, President Roosevelt requested his release to serve as Chairman of the Social Security Board.

CHRONOLOGY OF INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

(From *The New York Times*, January 1, 1936)

FOREIGN RELATIONS

Jan. 9—United States membership in the World Court is favorably reported by the Foreign Relations Committee of the Senate.

Jan. 31—The U.S.S.R. debt talks between Ambassador Troyanovsky and Secretary Hull come to nothing.

Feb. 2—Commercial treaty with Brazil is signed.

Feb. 27—Commercial treaty with Belgium is signed—the United States grants an average reduction of tariff of 24 per cent on forty-seven Belgian products.

March 28—A commercial treaty with Haiti is signed, granting the United States a distinct advantage in manufactured metal commodities.

April 16—The Manchukuoan oil monopoly, which went into effect on April 10, is objected to by the United States, in note to Japan; Great Britain had objected on April 13.

May 25—A commercial treaty with Sweden is signed—both parties make tariff concessions to increase their exports.

July 12—Secretary Hull reaffirms adhesion to the Kellogg pact, that signatories shall abjure war as a national policy. The declaration was inspired as follows: On July 3 Ethiopia had appealed to the United States for sympathy and the next day (Independence Day) had asked the United States to force Italy to observe the Kellogg pact, and on July 5 this request was denied; on July 6 the government advised American citizens to leave Ethiopia, and on July 11 it had urged peace between Rome and Addis Ababa.

Aug. 5—Secretary Hull apologizes to Japan for magazine cartoon. Paul Kress, a German masseur, is denied a license to practice in New York.

Aug. 13—The German Consul General at Boston, having resented a legislative resolution denouncing persecution under the Third Reich, is rebuked by Governor Curley of Massachusetts.

Aug. 14—First shipment of war material for Italian Somaliland departs from New Orleans.

Aug. 15—Panama wins sovereignty by a new treaty with the United States.

Aug. 24—A neutrality resolution, in the Italo-Ethiopian conflict, is adopted by Congress—as soon as the President recognizes a state of war it shall be illegal to export to belligerents ''arms, ammunition or implements of war.''

Aug. 25-31.—Exchange of notes between Washington and Moscow on the former's charge that the transactions of the Third International, which ended at Moscow five days before, violated the pledge given the United States, Nov. 16, 1933, in the conversations which led to the establishment of diplomatic relations.

Aug. 26—Ambassador Troyanovsky charged that there was a campaign in the United States by ''some persons'' against the Soviet Government (in commenting on a note of protest lodged by Ambassador Bullitt against Communist propaganda in the United States).

Aug. 27—The Moscow Government rejected our protest against activities of the Communist International and denied responsibility for actions of the comintern.

Aug. 31—President Roosevelt signed the Neutrality Act providing for an embargo on shipments of arms to countries at war and laying down other rules of conduct designed to assure the maintenance of a strictly neutral position. Secretary Hull charged a clean-cut violation of the Soviet pledge to prevent efforts from its territory to overthrow the social and political structure of this country; he again asked a curb on Communist activities here.

Sept. 3—Secretary Hull announced that the Standard-Vacuum Oil Company had decided to cancel the Rickett lease for a vast oil concession in Ethiopia.

Sept. 6—The withdrawal of the United States team from the German Olympiad of 1936 is urged by Governor George H. Earle of Pennsylvania. The opposite opinion is voiced by Charles H. Sherrill, member of the executive committee, on Oct. 21. On Nov. 21, 138 clergymen and educators support Earle.

Sept. 7—Ambassador Luther lodged a protest against Magistrate Brodsky's freeing five men arrested in the riot aboard the liner Bremen in New York on July 26; he characterized this an insult to the Nazi flag.

Sept. 12—Secretary Hull reminded Italy and Ethiopia in positive terms of their obligations under the Pact of Paris (the Kellogg-Briand pact) to settle their differences by peaceful means; he cited the threat to world peace and said that war anywhere was the concern of nations.

Sept. 13—A commercial treaty based on ''most favored nation'' treatment is signed with Colombia.

Sept. 14—Secretary Hull expressed regret to Germany for Magistrate Brodsky's attack on its government and flag.

Sept. 16—The government withdraws tariff concessions to Germany.

Sept. 18—The War Department announced that General Douglas MacArthur, retiring chief of staff, would supervise the organization of the national defense forces of the Philippine Islands.

Oct. 5—President Roosevelt proclaimed an arms embargo against Italy and Ethiopia; declared it ''indisputable that a state of war exists'' and warned Americans that all transactions with belligerents would be at their own risk.

Oct. 6—The President in a proclamation warned our citizens against traveling, except at their own risk, on ships of Italy and Ethiopia; the proclamation completed the program to keep us out of war.

Oct. 8—Italy is requested not to bomb American buildings at Addis Ababa.

Oct. 12—Japan agreed to hold her exports of cotton piece goods to the Philippines to 45,000,000 square meters annually.

Oct. 14—Ambassador Augusto Rosso explains the Italo-Ethiopian conflict to the Order of the Sons of Italy at a Boston banquet, and four days later the national convention of the order urges Italian sympathizers to boycott British commodities.

Oct. 15—Secretary Hull warned in a radio speech that the conflict abroad touched the United States closely and ''dangerously''; declared that this country was not only collaborating with other nations to enforce world peace but was also prepared to enforce the domestic policies designed to insure its own neutrality.

Oct. 17—President Roosevelt pledged himself to ''do my part in keeping America free of those entanglements that move us along the road to war.'' The A. F. of L. takes a hand in the German Olympiad 1936 quarrel: in protesting against suppression of labor unions in the Third Reich, it urges American sports organizations to stay away.

Oct. 26—Secretary Hull in a note to the League of Nations asserted our intention to continue to exert moral influence for peace within the limitations of policies previously defined, but to avoid foreign entanglements and involvement in war.

Oct. 30—President Roosevelt and Secretary Hull issued strongly worded statements, called tantamount to declaring for cessation of American trade with Italy, urging the desirability of a speedy ending of the Ethiopian War.

Nov. 6—Secretary Hull indicated that the administration would ask a more elastic neutrality law so that we could cooperate with other countries to ''prevent or lessen the scourge of war''; he held that negative measures like embargoes were not enough.

Nov. 7—The PWA, which is financing the construction of the Triborough Bridge in New York, held up an order that had been approved by the bridge engineers for the use of German sheet steel piling, over the protests of American steel producers.

Nov. 11—President Roosevelt in an Armistice Day speech pledged determination to keep the United States out of future wars and challenged other nations to reduce armaments, promising that this country would quickly follow such a course; he reiterated his ''good-neighbor'' policy.

Nov. 14—Manuel Quezon inaugurated as President of the Philippine Commonwealth in the presence of Vice President Garner, Speaker Byrns, Secretary Dern and Congressional party. President Roosevelt issued his proclamation certifying the freedom of the Philippines and the election of the officials chosen by ballot in the islands on Sept 7. Secretary Ickes placed a curb on German steel, ruling that no foreign materials should be bought for PWA projects without his sanction.

Nov. 15—Secretary Hull, with the approval of President Roosevelt, issued a warning against dealing in war supplies with Italy; government reports showed a considerable increase in this business in October. A commercial treaty is signed with Canada—the United States is guaranteed ''most favored nation'' treatment, except where the empire is concerned, and the treaty is ultimately to the advantage of the States.

Nov. 17—President Roosevelt, in a letter to Martin H. Carmody as Supreme Knight, rejected a demand of the Knights of Columbus that the administration act to halt ''persecution of religion by the Mexican Government.''

Nov. 22—The shipping industry was warned by the government, its principal creditor, to conform to the policies of the administration regarding shipment of war materials to Italy and Ethiopia; a Commerce Department report revealed large increases in exports during October to these countries.

Nov. 29—American manufacturers of arms and munitions and exporters of such supplies were brought directly under control of the government as the munitions section of the Neutrality Act became automatically effective.

Dec. 5—Secretary Hull warned against impairment of American treaty rights and interests in North China, declaring that the United States was adhering to the fundamental principles of its traditional policy and was ''closely observing what is happening'' in China. Secretary Hull invokes the covenants guaranteeing the political and territorial entity of China, from Secretary Hay's secured pledge for ''administrative entity,'' in 1901, down to the various pledges made by Japan.

Dec. 19—A commercial treaty, similar to those made this year with Cuba, Haiti, Brazil, Colombia, Belgium, Sweden and Canada, is signed with Honduras. Toyohiko Kagawa, a Japanese Christian evangelist, is shut out by the immigration authorities.

Dec. 20—Prof. Manley Ottmer Hudson of Harvard Law School is nominated to succeed Frank B. Kellogg, resigned, on the World Court bench.

FRANCE

Jan. 25—A short-term bond issue is approved by the Chamber.

March 16—The Chambers vote to lengthen the military term of service.

May 23—Rediscount rate is raised by the Banque de France.

May 31-June 7—The Chamber defeats the Flandin Cabinet; Bouisson has one for three days; then Pierre Laval forms the present one.

June 24—Jean Chiappe, who was dismissed as Prefect of Police Feb. 8, 1934, is elected president of the Paris Municipal Council.

July 17—The government obtains from the Chambers the right to legislate by decree for three months: economic decrees are followed by those for national defense.

Sept. 22—Demonstration of the "Francist" Croix de Feu throughout France shows a membership of ex-service men of over 800,000.

Oct. 20—A trend to the Left is revealed by elections to the Senate.

Dec. 17—The Chamber supports Laval, 304 to 252, but warns him about his pact with the British Foreign Secretary, Sir Samuel Hoare.

Dec. 18—Former Premier Herriot, reelected leader of the Radical Socialists Oct. 27, resigns.

Dec. 25—The Croix de Feu bars war on Italy.

Dec. 28—Laval again supported in the Chamber, 296 to 276.

BRITISH EMPIRE

Jan. 17—Lloyd George offers his own "New Deal," and Parliament reassembling on Jan. 28 debates it. The Cabinet turns it down, July 22.

Jan. 28—A commercial treaty is signed with the Irish Free State.

Jan. 29—In the Canadian Parliament an Unemployment Insurance Bill is submitted.

Feb. 7—India Legislative Assembly votes against the Constitution Bill. First failure in the pepper monopoly is sensationally announced.

Feb. 14—A Labor motion to censure the Baldwin government in the House of Commons fails.

Feb. 18—An Arms Commission of Inquiry is set up with sensational revelations of war profiteering in the testimony taken.

March 3—The war budgets are increased in all three fields of defense, with the Commons approving air expansion on May 22.

May 6—The Silver Jubilee of King George V opens in London.

May 28—Lusaka becomes the capital of Northern Rhodesia, in Africa.

June 5—The India Constitution Bill passes the House of Commons and Stanley Baldwin is made Prime Minister by the resignation of Ramsay MacDonald, June 7.

June 27—An unofficial ballot shows that the British people stand behind the government in defense of the empire—an important item in the government's future policy at the League and toward Italy.

Aug. 2—The India Constitutional Bill is made an act of Parliament by King George's assent.

Sept. 10—Kenya (East Africa) settlers, fearing a return to Germany, protest to the British Government.

Sept. 18—Sir Stafford Cripps resigns as head of the Labor party, as the party prepares to meet at Brighton, Oct. 2.

Oct. 28—A confederation of East African Crown colonies is rumored and denied.

Nov. 14—General elections return a strong support to the Baldwin government for its comprehensive "defense of the empire policy," both at the League and in the Mediterranean.

Nov. 27—In New Zealand general election the Labor party wins.

Dec. 14—Egypt petitions the League asking protection, and the bond to the empire is strengthened by general demands for a new election.

Dec. 17—British railways offer passenger transport on an installment plan.

Dec. 18—Sir Samuel Hoare is replaced by Anthony Eden in the Foreign Office, and the government weathers a storm in the Commons provoked by the Laval-Hoare peace plan.

Dec. 28—The Money Payments Act coming into force Feb. 1, 1936, will free 20,000 persons now jailed for debt and prevent such a penalty in the future.

GERMANY—THIRD REICH

Jan. 3—At a Nazi convention of leaders held in Berlin steps are taken for Aryan solidarity with ethnic, religious and educational co-ordination and a repudiation of "all pledges forced on the German people by the Paris Peace Treaties," with a return of Germany to a place in the sun by consistent armaments and a return of the lost colonies, and all municipalities are co-ordinated under the party.

Jan. 24—The Cabinet decrees the conversion of 8,000,000,000 marks of public debt.

Feb. 12—Demonstration in Berlin for a return of the Memel region.

Feb. 18—Two women lose their heads for having sold alleged military secrets.

Feb. 21—The Fuehrer orders a loan by confiscation for the benefit of the unemployed; another decree causes the State to assume control of all mining interests.

March 1—The Saar region is formally returned to Germany; on Jan. 15 a plebiscite gave Germany 90.8 per cent of all votes; on Jan. 17 the League of Nations agrees to abide by the vote.

March 10—The funds of the Lutheran Church are placed under State control.

March 20—France asks the League to take up the matter of the new German conscript army of 500,000 men decreed on March 16; on March 18, Great Britain had formally protested against this violation of the Versailles Treaty by a note to Berlin. On March 21, Italy joined in the protest. On March 25, Anglo-German conversations begin at Berlin, with Sir John Simon and Anthony Eden on one side and the Fuehrer and Ministers on the other—Hitler will join no new pacts calculated to diminish the growing Nazi prestige.

May 14—The most formidable weapon of anti-Semitic propaganda is juridically declared to be worthless—the Swiss High Court decides that ''the Protocols of Zion'' are forgeries, although evidence that they were such had been in circulation since 1923.

May 22—The Fuehrer in a Reichstag speech attempts to soften the effects abroad of his conversations of March 25-27.

June 20—The German budget reveals a deficit of over 20,000,000,000 marks.

July 1—A special bureau for the liquidation of the property of the Protestant churches gets to work.

July 18—An edict is issued against the ''political'' activity of Catholic priests, and, on July 23, the Catholic War Veterans' organization is dissolved.

August 18—Dr. Schacht, the indispensable head of the German Bank and Finance Minister, attacks the Government's anti-Semitic policy.

Sept. 1—Catholic Bishops protest against the Nazi ''dictatorship of the soul.''

Sept. 10-15—At the Reichstag Congress in Nuremberg new laws are proclaimed whereby Jews are definitely deprived of German citizenship and reduced to a subject class without any definite rights. [The full text of these laws can be found in the *Voelkische Beobachter* of Sept. 16.]

Oct. 18—All university and collegium societies are dissolved.

Oct. 20—Dr. Hans Kerrl, Minister for Church Affairs, orders a halt on secret police activities against the rising pan-religious opposition, and requests the resignation of Reichbishop Mueller; a week later the Fuehrer publicly declares that the latter's neo-paganism has gone too far.

Dec. 20—Trustworthy advices from Germany reveal that in spite of the pledge given the International Olympic Committee that no one in Germany would be curbed in any free athletic participation or in competition during or before the Olympiad at Garmischpartenkirchen, all Jewish athletic clubs have been boycotted, and the heads of other clubs have been ordered to get rid of Jewish competitors.

Dec. 22—It is reported from Berlin that Italy is attempting to secure the ''Peter's Pence'' collected in Germany in 1934 as a war loan; Germany had withheld the collections from the Vatican State.

Dec. 23—Hitler is cold to British proposals for an understanding as to air armaments.

ITALY

(See LEAGUE OF NATIONS, p. 101)

THE VATICAN STATE

April 1—At a secret Consistory for the canonization of the English Christian martyrs, Sir Thomas More and John Cardinal Fisher, Pope

Pius XI, in an allocution, calls for the "destruction" of people who desire wars, according to the Vulgate's use of the verb "dissipare." "*Dissipa gentes quae bella volunt,*" the Pope said.

Dec. 16—The Pope creates twenty new Cardinals, making the Sacred College consist of sixty-nine members, thirty-eight of whom are Italian.

Dec. 24—In the reply to the usual address of loyalty to the Pope, on Christmas Eve pronounced by the Dean of the Sacred College—this year, Granito Candinal di Belmonte—Pius XI characterizes the present war clouds over Europe as due to misunderstandings; he condemns atheism in Russia and paganism in Germany in an encyclical to priests.

ELSEWHERE IN EUROPE

Jan. 17—In Soviet Russia Kamenev and Zinoviev are imprisoned for counter-revolutionary activity.

March 1—Kemal Ataturk is reelected President of Turkey.

March 23—Lerroux, the veteran Republican leader, forms a government in Spain; it resigns May 3.

April 23—The Polish Constitution is promulgated.

Sept. 10—Movement for a monarchy in Greece returns King George to the throne.

Oct. 2—King Boris foils a coup de main in Bulgaria.

Dec. 14—In Czechoslovakia, Thomas G. Masaryk resigns from the Presidency and is succeeded by Eduard Benes, the "Father of the Little Entente."

Dec. 15—General elections in Spain put Señor Portela in power.

IN THE FAR EAST

Nov. 27-Dec. 1—Japan moves south of the Great Wall, warns Great Britain and the United States not to intervene, and invades the region of Peiping—the Peking of old China.

Dec. 1—A pro-Tokyo State is formed with the alleged aid of the Nanking Government.

Dec. 14—The Japanese occupy Kalgan, while Mongolians seek the protection of Soviet Russia.

Dec. 15-Dec. 20—Japan denounces as "warlike" Russia's protection of the Mongolians.

Dec. 25—Japan renews her investment of Shanghai.

LATIN AMERICA

Jan. 15—In Cuba constitutional rights are suspended for ninety days to safeguard harvesting and the grinding of sugar; change of Cabinet, Feb. 26, leads to dictatorship, March 9, following a general strike; June 11, Constitution of 1901 restored.

Jan. 28—Uruguay, after a three-year dictatorship under President Gabriel Terra, revolts—incident in the century-old struggle of Blancos and Colorados for mastery.

Feb. 12—Cardenas administration in Mexico bars religious literature from the mails; Cabinet resigns June 14 after quarrel between President and ex-President Calles, who had announced his withdrawal from politics, and on Nov. 5 President Cardenas revives Catholic persecution.

Feb. 18—The Chaco war renewed when the League of Nations lifts arms embargo on Bolivia and Paraguay withdraws from the League, with Bolivia assuming the offensive. On June 9 belligerents accept a truce, and ratify it twelve days later.

May 26—Twenty-one republics are represented in the Pan-American Commercial Conference at Buenos Aires. In Colombia Congressional elections give President Lopez a majority of thirteen, assuring him control of the Senate to be elected.

July 19—Argentina establishes censorship of news.

Aug. 2—Bolivia extends President Tejada's term for a year to prevent interruption of negotiations with Paraguay on Chaco dispute, and on Oct. 28 the peace conference declares the war ended—technically.

Aug. 20—In Ecuador President José Velasco Ibarra tries to be dictator and is arrested by the army, and on Sept. 27 he resigns.

LEAGUE OF NATIONS

Italo-Ethiopian Conflict

Jan.—"A common Franco-Italian attitude on possible eventualities" is agreed upon. There are clashes on the French Somaliland frontier and on the Eritrian frontier. The former is amicably settled; the latter, known as the Ualual affair goes to the League, which blames neither the Italians nor the Ethiopians.

Jan. 3—Ethiopia complains to the League that Italy meditates aggression.

Feb. 12—Italy demands an apology and indemnity for the frontier clash, and on March 5 Ethiopia and Italy agree on a neutral zone, while Italy continues to mobilize and is made war-conscious by the head of the government.

April 11-14—The Stresa Conference brings about a united front among Great Britain, France and Italy, but Ethiopia is not mentioned publicly.

May 7—Il Duce warns the powers to refrain from intervention.

May 20—The Negus appeals personally to the League to enforce the covenant on Italy, and on May 25, the League Council appoints a committee of conciliation, which requires a settlement by Aug. 25.

May 25—The Negus having appealed personally to the League (he had already named Italy as a potential aggressor, Jan. 3) the League Council appoints a committee of conciliation requiring a settlement by Aug. 25.

June 22 and 24—Anthony Eden, British envoy to the League, confers at Paris and Rome; at Paris he sounds France on a Mediterranean naval pact; at Rome, Il Duce reminds him of British possessions in Africa and that the time has come for Italy to have some too.

July—The conciliation committee, created May 25, repeatedly postpones its sittings.

July 25—Italy proposes resumption of arbitration of dispute and the proposal is laid before the Council of the League when it meets on July 31; Britain had already prohibited export of arms to either belligerent. Italy continues to dispatch troops to her possessions bordering on Ethiopia.

Aug. 1—Sir Samuel Hoare, British Foreign Secretary, repudiates to Mussolini that the Stresa agreement had anything to do with Ethiopia; in the House of Commons he deplores the effect of an Italo-Ethiopian conflict and declares that his government will support the League in all its transactions.

Aug. 2—Mussolini in dispatches to Downing Street and the Quai d'Orsay suggests that the signatories of the protocols of 1906 get together and consider their meaning.

Aug. 15-18—Eden, Laval, and Baron Aloisi try to follow out Mussolini's suggestion at Paris, but the conference breaks down.

Aug. 22—The British Cabinet decides to leave the Italo-Ethiopian question to the League and invokes a collective front against Italy's alleged transgression of the covenant. The British Government turns down Eden's suggestion for an arms embargo against Italy, and then publicly announces that it would not contemplate anything but the League's collective action to prevent war.

Aug. 26-Sept. 3—Italian maneuvers with live cartridges and shells are held on the Austrian frontier; 150,000 troops are left there.

Aug. 28—Mussolini declares that "the policy of Italy does not threaten either directly or indirectly British Imperial interests."

Aug. 31—The Ethiopian oil concession to F. W. Rickett is announced and immediately repudiated by the concessionaires, and, for them, by Great Britain and the United States.

Sept. 3—The committee appointed by the League on May 25 decides that neither Italians nor Ethiopians were to blame for the Ualual affair.

Sept. 4—At the meeting of the League Council, Laval declares, "The Covenant binds us all." The next day Baron Aloisi and the Italian delegates walk out.

Sept. 6—Five-power commission of conciliation is created by the League.

Sept. 11—Sir Samuel Hoare, British

Foreign Minister, is supported by France, Russia, and the smaller members of the League, except Austria and Bulgaria, in pledging "collective maintenance of the covenant in its entirety" and demanding that the League act against Italian aggression.

Sept. 18—The League's Committee of Five present Italy and Ethiopia with a plan for Ethiopian reforms to be executed under the auspices of the League; gendarmerie under foreign supervision, foreign exploitation of natural resources with special recognition of Italian interests, and the reorganization of the economic and administrative services. Finally, Ethiopia is to have an outlet to the sea.

Sept. 22—Ethiopia accepts the plan; Italy turns it down on the grounds that Ethiopia was incapable of being bound by such an agreement—it had declined to observe much less.

Sept. 23—Italy increases her army to 1,000,000 and mobilizes, as a demonstration, 10,000,000 Fascisti. Great Britain sends her home fleet into the Mediterranean.

Sept. 26—The Council of the League unanimously supports the Five-Power Committee and decides to proceed against Italy under Article XV of the covenant.

Oct. 1-5—Italian armies enter Ethiopia, Adowa is captured and the defeat of 1896 is avenged.

Oct. 7—The League Council decides unanimously that Italy has violated Article 12 of the Covenant.

Oct. 10—The League sets up a Coordinating Committee to apply collective measures against Italy and a majority of the nations represented agree on an arms embargo and economic sanctions.

Oct. 18—France, having won Italian consent to the withdrawal of the super-garrison in Libia Italiana, if Great Britain will order the return of her home fleet, agrees to support Great Britain if she is attacked by Italy.

Oct. 22—Military sanctions against Italy having been debated by the Five-Power Committee, Sir Samuel Hoare assures the House of Commons that they can be avoided. He supports the formula that financial sanctions will be sufficient.

Nov. 2—The League fixes Nov. 18 as the date on which to apply the sanctions, but voices the hope that the British and French Governments shall continue the work of mediation on the League's behalf.

Nov. 11—Italy warns the nations of the League that the imposition of sanctions would mean retaliation in kind.

Nov. 14-Dec. 20—With Adowa, the site of the Italian defeat in 1896, recovered, the Italian armies from the north, east and south slowly advanced with varied success, and Marshal Pietro Badoglio succeeds the aged General Emilio de Bono in command of the armies, while General Grizzoni is withdrawn from the field and made vice-governor of Eritrea.

Nov. 18—The League, supported by fifty-one members, applies economic sanctions.

Dec. 7—At the Quai d'Orsay, Paris, Premier Laval and Sir Samuel Hoare, British Foreign Secretary, agree on a plan to dismember Ethiopia to Italy's imparted satisfaction; the plan is submitted to the British Cabinet, and its publication stirs the British public and causes Anthony Eden to replace Sir Samuel at the Foreign Office.

Dec. 11-15—The League shelves the Laval-Hoare agreement, but delays the resort to oil sanctions against Italy.

Dec. 20—The Mediterranean powers consent to aid Great Britain if she is attacked by Italy, and the prestige of the League is correspondingly strengthened. With the Laval-Hoare plan shelved by the League and the imposition of the oil sanctions indefinitely postponed, Mussolini decides to proceed to his goal—"*Italia farà da sè.*"

London Naval Conference

Dec. 9-20—Five-Power naval conference—United States, Great Britain, Japan, France, Italy—opens in London to conclude "a new international covenant for the limitation of naval armament," superseding the Washington and London treaties.

On the eve of the conference, Japan, on the short end of a 5-5-3 ratio with Great Britain and the United States, demanded absolute parity with them. As the conference opens the United States asks 20 per cent naval cut all round; if Japan got parity she would consider reduction; Dec. 10—Japan wins first consideration; Dec. 11—Japan expounds her thesis for common naval limit for three chief naval powers; Dec. 13—A Pacific zone limitation is suggested for Japan and the United States; Japan concedes parity for all powers, if they want it, except for Russia and Germany; Dec. 14—Delegates debate common parity vs. "common upper limit"; Dec. 18—British plan debated: would postpone decision as to parities and have each power declare building program as basis for ultimate agreement; Dec. 20—Without any concrete results, the conference adjourns till Jan. 6, 1936.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

Academy of Political Science in the City of New York, Fayer-Weather Hall, Columbia University, New York City.

American Arbitration Assn., 521 Fifth Avenue, New York City.

American Peace Society, 734 Jackson Place, Washington, D. C.

American Society of International Law, 700 Jackson Place, N. W., Washington, D. C.

Carnegie Endowment for International Peace, 700 Jackson Place N. W., Washington, D. C.

Council on Foreign Relations, Inc., 45 East 65th Street, New York City.

Foreign Policy Assn., 18 East 41st Street, New York City.

Institute of Current World Affairs, 522 Fifth Ave., New York City.

International Reform Federation, 134 B St. N. E., Washington, D. C.

League of Nations Assn., 6 East 39th Street, New York City.

League of Nations Union, 70 Fifth Ave., New York City.

National Council for Prevention of War, 532 17th Street N. W., Washington, D. C.

People's Lobby, Inc., 113 First St. N. E., Washington, D. C.

Women's International League for Peace and Freedom, 150 Fifth Avenue, New York City.

Women's Peace Society, 20 Vesey Street, New York City.

Women's Peace Union, 39 Pearl Street, New York City.

World Peace Foundation, 40 Mount Vernon Street, Boston, Mass.

REGIONAL

American Asiatic Assn., 1 Hanover Square, New York City.

American Committee for Armenian Independence, 1 Madison Ave., New York City.

Armenia-America Society, 289 Fourth Ave., New York City.

China Society of America, 570 Lexington Avenue, New York City.

Committee on Cooperation in Latin America, 254 Fourth Ave., New York City.

English-Speaking Union of the United States, 19 West 44th St., New York City.

Far East Conference, 21 West Street, New York City.

French Institute in the United States, 22 East 60th Street, New York City.

Friends of Freedom for India, 799 Broadway, New York City.

Friends of Irish Freedom, 280 Broadway, New York City.

Japan Society, Inc., 36 West 44th Street, New York City.

National Assn. for Protection of American Rights in Mexico, 17 Battery Place, New York City.

Netherland Assn. of North America, 179 S. Trenchard Street, Yonkers, N. Y.

Pan-American Society, Inc., 67 Broad Street, New York City.

Pan-Pacific Union, Honolulu, Hawaii.

PART TWO

AMERICAN GOVERNMENT

DIVISION III

THE NATIONAL GOVERNMENT

FEDERAL ADMINISTRATIVE ORGANIZATION

BY WILLIAM M. SCHUYLER

ASSOCIATE EDITOR, *The American Year Book*

THE PRESIDENT AND VICE PRESIDENT

President.—Franklin Delano Roosevelt, of New York (Democrat). Sworn into office as President of the United States, March 4, 1933, in succession to Herbert Hoover.

Vice President.—John Nance Garner of Texas (Democrat), Inaugurated Vice President of the United States, March 4, 1933.

Secretaries to the President.—Louis McHenry Howe (Indianapolis); Marvin Hunter McIntyre (Kentucky); Stephen Early (Virginia); Marguerite A. Le Hand.

Presidential Vacancy.—By Act of Congress, in the case of vacancy occurring in the office of President through the death or removal of both the President and Vice President, the Cabinet officers succeed to the Presidency in the order indicated in the arrangement of the following summary of the executive departments:

DEPARTMENT OF STATE

Secretary of State.—Cordell Hull.

Executive Assistant to the Secretary of State.—Hugh S. Cumming, Jr.

Undersecretary of State.—William Phillips.

Assistant Secretaries of State.—Wilbur J. Carr, R. Walton Moore, Francis B. Sayre, Sumner Welles.

Foreign Service Personnel Board.—Wilbur J. Carr, Assistant Secretary of State, chairman; Sumner Welles, R. Walton Moore.

Legal Adviser.—Green H. Hackworth.

Economic Adviser.—Herbert Feis.

Chief Clerk and Administrative Assistant.—Clinton E. MacEachran.

Assistant to the Secretary of State.—Harry A. McBride.

Chiefs of Divisions.—

- Far Eastern Affairs.—Stanley K. Hornbeck.
- Latin-American Affairs.—Laurence Duggan.
- Western European Affairs.—James Clement Dunn.
- Near Eastern Affairs.—Wallace S. Murray.
- Mexican Affairs.—Edward L. Reed.
- Eastern European Affairs.—Robert F. Kelley.
- Passport.—Ruth B. Shipley.
- Current Information.—Michael J. McDermott.
- Foreign Service Administration.—Herbert C. Hengstler.
- Protocol and Conferences.—Richard Southgate.
- Treaty.—Charles M. Barnes.
- Foreign Service Personnel.—Thomas M. Wilson.

Chiefs of Bureaus.—

- Accounts.—William McNeir.
- Communications and Records.—David A. Salmon.

Translating.—Emerson B. Christie.

Chiefs of Offices.—

Consular Commercial.—James J. Murphy, Jr.

Historical Advisor.—Hunter Miller.

Coordination and Review.—Margaret M. Hanna.

Visa.—John Farr Simmons.

Foreign Service Buildings.—Robert J. Phillips (Assistant Chief Acting).

Foreign Service School.—Lowell C. Pinkerton.

DEPARTMENT OF THE TREASURY

Secretary of the Treasury.—Henry Morgenthau, Jr.

Charged with the management of the national finances. He prepares plans for the improvement of the revenue and support of the public credit; superintends collection of the moneys paid from and into the Treasury; controls construction of public buildings, coinage and printing of money, and the administration of the Coast Guard and the Public Health Service; ex-officio chairman of the Federal Reserve Board and of the Federal Farm Loan Board.

Undersecretary of the Treasury.—Thomas J. Coolidge.

Assistant Secretary in Charge of Public Health.—Josephine Roche.

Assistant Secretary in Charge of Customs, Coast Guard and Narcotics.—Stephen B. Gibbons.

Assistant Secretary in Charge of Engraving and Printing and Mint Service.—Lawrence W. Robert, Jr.

Assistants to the Secretary.—John Kieley and Henriette S. Klotz.

Chief Clerk and Superintendent.—F. A. Birgfeld.

Commissioner of the Public Debt Service.—William S. Broughton.

Commissioner of Accounts and Deposits.—E. F. Bartelt.

Chiefs of Divisions.—

Appointments.—James E. Harper.

Bookkeeping and Warrants.—Joseph Greenberg.

Deposits.—E. D. Batchelder.

Loans and Currency.—Marvin Wesley.

Paper Custody.—M. A. Emerson.

Accounts and Audit.—M. R. Loafman.

Research and Statistics.—George C. Haas.

Secret Service.—W. H. Moran.

Chief Disbursing Officer.—Guy F. Allen.

Comptroller of the Currency.—J. F. T. O'Connor.

Has supervision of the national banks, their examination and reports; preparation and issue of national bank circulation; redemption and destruction of national bank notes. Ex-officio member of the Federal Reserve Board in which capacity he draws a salary of $7,000 in addition to the salary of $5,000 attached to the office proper of Comptroller of the Currency.

Treasurer of the United States.—William A. Julian.

Charged with the receipts and disbursement of all public moneys deposited in the Treasury and Sub-Treasuries and in national bank depositaries.

Director of the Bureau of the Budget.—Daniel W. Bell (acting).

Commissioner of the Bureau of Customs.—James H. Moyle.

Commissioner of the Bureau of Internal Revenue.—Guy T. Helvering.

Charged with general supervision of the collection of all internal revenue taxes, including the income tax, and the enforcement of internal revenue laws.

Director of the Bureau of the Mint.—Nellie Tayloe Ross.

Has general supervision of the mints and assay offices.

Commissioner of Narcotics.—H. J. Anslinger.

Register of the Treasury.—W. W. Durbin.

Director of the Bureau of Engraving and Printing.—Alvin W. Hall.

Produces all the securities and similar work of the Government printed from steel plates.

Bureau of the Public Health Service.—Hugh S. Cumming, Surgeon General.

Charged with the framing and enforcement of regulations for the prevention of the introduction and spread of contagious disease; supervision of the quarantine service of the United States, and supervision of the Marine hospitals.

Coast Guard.—Rear Admiral Harry G. Hamlet, Commandant.

Office of the Supervising Architect.—L. A. Simon, Supervising Architect.

Custom House.—Charles R. Lewis, Deputy Collector in Charge.

DEPARTMENT OF WAR

Secretary of War.—George H. Dern.

Assistant Secretary of War.—Harry H. Woodring.

Assistant Chief Clerk.—Frank M. Hoadley.

Executive Assistant to the Secretary of War.—Oliver J. Grimes.

Executive to the Assistant Secretary of War.—Colonel Earl McFarland.

Clerk to the Secretary of War.—John W. Schott.

War Department General Staff.—General Malin Craig, Chief of Staff; Major General George S. Simonds, Deputy Chief of Staff.

Office of the Chief of Cavalry.—Major General Leon B. Kromer, Chief.

Chief of Field Artillery.—Major General Upton Birnie, Jr.

Chief of Coast Artillery.—Major General Harry L. Steele.

Chief of Infantry.—Major General Edward Croft.

Chief of Chaplains.—Alva J. Brasted.

The Adjutant General.—Vacant.

The Inspector General.—Vacant.

The Judge Advocate General.—Major General Arthur W. Brown.

The Quartermaster General.—Major General L. H. Bash.

Chief of Finance.—Major General Frederick W. Coleman.

Surgeon General.—Major General Charles R. Reynolds.

Chief of Engineers.—Major General E. M. Markham.

Chief of Ordnance.—Major General W. H. Tschappat.

Chief Signal Officer.—Major General James B. Allison.

Chief of the Air Corps.—Major General B. D. Foulois.

Chief of the Bureau of Insular Affairs.—Brigadier General Creed F. Cox.

Philippine Islands.—Frank Murphy, United States High Commissioner.

Puerto Rico Government.—Blanton Winship.

Chief of the National Guard Bureau.—Major General George E. Leach.

Chief of the Chemical Warfare Service.—Major General Claude E. Brigham.

The Army War College.—Commandant, vacant.

The Army Industrial College.—Col. Harry B. Jordan.

DEPARTMENT OF JUSTICE

Attorney General.—Homer S. Cummings.

Represents the United States in all legal matters.

Solicitor General.—Stanley F. Reed.

Assistant to the Attorney General.—Brien McMahon, (acting).

Assistant Attorneys General.—Frank J. Wideman, Joseph B. Keenan, Harry W. Blair (Division of Customs), John Dickinson, James W. Morris.

Assistant Attorney General, Bureau of Customs.—Joseph R. Jackson.

Director of the Bureau of Investigation.—J. Edgar Hoover.

Executive Assistant to the Attorney General.—Ugo J. A. Carusi.

Administrative Assistant.—Charles E. Stewart.

General Agent.—Herbert J. McClure.

Chief Clerk.—Harvey Donaldson.

Assistant Chief Clerk and Appointment Clerk.—Charles B. Sornborger.

Chief of the Division of Records.—Robert M. Moore.

Chief of the Division of Supplies and Printing.—John F. Holland.

Librarian.—George Kearney.

Director of the Bureau of Prisons.—Sanford Bates.

Attorney in Charge of Pardons.—James A. Finch.

POST OFFICE DEPARTMENT

Postmaster General.—James A. Farley.

Executive Assistant to the Postmaster General.—Ambrose O'Connell.

Secretary to the Postmaster General.—William J. Bray.

First Assistant Postmaster General.—William W. Howes.

Second Assistant Postmaster General.—Harllee Branch.

Third Assistant Postmaster General.—Clinton B. Eilenberger.

Fourth Assistant Postmaster General.—Smith W. Purdum.

Comptroller.—William L. Slattery.

Director of Parcel Post.—John A. Brennan.

Solicitor.—Karl A. Crowley.

Chief Post Office Inspector.—Kildroy P. Aldrich.

DEPARTMENT OF THE NAVY

Secretary of the Navy.—Claude A. Swanson.

The Assistant Secretary of the Navy.—Henry L. Roosevelt.

Chief Clerk.—Willian D. Bergman.

Chief of Appointment Division.—Charles Poizet.

Chief of Division of Records.—Charles T. Ogle.

Budget Officer.—Captain H. F. Kimmel.

Island Governments.—

- Guam.—Captain George A. Alexander, Governor.
- American Samoa.—Captain Otto C. Dowling, Governor.
- Virgin Islands.—Lawrence W. Cramer, Governor.

Chief of Naval Operations.—Admiral William H. Standley.

Chief of the Bureau of Navigation.—Rear Admiral Adolphus Andrews.

Chief of the Bureau of Yards and Docks.—Rear Admiral Norman M. Smith.

Chief of the Bureau of Ordnance.—Rear Admiral H. R. Stark.

Chief of the Bureau of Construction and Repair.—Rear Admiral Emory S. Land.

Chief of the Bureau of Engineering.—Rear Admiral Harold G. Bowen.

Chief of the Bureau of Supplies and Accounts.—Rear Admiral Charles Conard.

Chief of the Bureau of Medicine and Surgery.—Rear Admiral P. S. Rossiter.

Chief of the Bureau of Aeronautics.—Rear Admiral Ernest J. King.

Judge Advocate General.—Rear Admiral C. C. Bloch.

Naval Consulting Board.—Thomas Robins, Secretary.

Compensation Board.—Rear Admiral R. M. Watt, senior member.

General Board.—Rear Admirals Frank H. Clark, A. W. Johnson, W. R. Sexton, J. W. Greenslade, Captain M. K. Metcalf, Commander R. O. Glover.

President of the Board of Medical Examiners.—Rear Admiral John B. Dennis.

President of the Naval Examining Board.—Rear Admiral Adolphus E. Watson.

President of the Naval Retiring Board.—Rear Admiral John B. Dennis.

Naval Dispensary.—Captain Benjamin H. Dorsey, Medical Corps.

Navy Yard and Station, Washington, D. C.—Rear Admiral Joseph R. Defrees, Commandant.

Naval Medical School.—Captain Harold W. Smith.

Navy Hospital.—Vacant.

Attendance on Officers.—Lieutenant Commander William P. Mull.

President of the Board for Examination of Medical Officers.—Captain Harold W. Smith.

President of the Board of Examination of Dental Officers.—Captain Harold W. Smith.

Headquarters Marine Corps.—Major General John H. Russell, Commandant; Brigadier General David D. Porter, Adjutant and Inspector; Brigadier General Hugh Matthews, Quartermaster; Brigadier General George Richards, Paymaster.

Marine Barracks.—Lieutenant Commander Thomas S. Clarke, commanding.

DEPARTMENT OF THE INTERIOR

Secretary of the Interior.—Harold L. Ickes.

Charged with pensions, public lands,

Indian Affairs, geological surveys, reclamation of arid lands, and mines.

First Assistant Secretary.—Theodore A. Walters.

Assistant Secretary.—Oscar L. Chapman.

Administrative Assistant.—Ebert K. Burlew.

Chief Clerk.—Floyd E. Dotson.

Solicitor.—Nathan R. Margold.

Supervisor of Classification.—John Harvey.

Commission of the General Land Office.—Fred W. Johnson.

Commissioner of the Bureau of Indian Affairs.—John Collier.

Commissioner of the Office of Education.—John W. Studebaker.

Director of the Geological Survey.—W. C. Mendenhall.

Commissioner of the Bureau of Reclamation.—Elwood Mead.

Director of the National Park Service.—Arno B. Cammerer.

Director of the Bureau of Mines.—John W. Finch.

Territorial Officials.—

Alaska.—John W. Troy, Governor.

Hawaii.—Joseph B. Poindexter, Governor.

The Alaska Railroad.—Otto F. Ohlson, General Manager.

Oil Administration.—Harold L. Ickes, Secretary of the Interior, Administrator.

DEPARTMENT OF AGRICULTURE

Secretary of Agriculture.—Henry A. Wallace.

Assistant Secretary.—Milburn L. Wilson.

Assistants to the Secretary.—Paul H. Appleby, James D. Le Cron, Milo R. Perkins.

Director of Extension Work.—C. W. Warburton.

Director of Personnel.—W. W. Stockberger.

Director of Information.—Milton S. Eisenhower.

Solicitor.—Mastin G. White.

Librarian.—Claribel R. Barnett.

Office of Experiment Stations.—James T. Jardine, Chief.

Weather Bureau.—Willis R. Gregg, Chief.

Bureau of Animal Industry.—John R. Mohler, Chief.

Bureau of Dairy Industry.—O. E. Reed, Chief.

Bureau of Plant Industry.—Frederick D. Richey, Chief.

Forest Service.—F. A. Silcox, Forester and Chief.

Bureau of Chemistry and Soils.—Henry G. Knight, Chief.

Bureau of Entomology.—Lee A. Strong, Chief.

Bureau of Biological Survey.—Ira N. Gabrielson, Chief.

Bureau of Public Roads.—Thomas H. MacDonald, Chief.

Bureau of Agricultural Economics.—Albert G. Black, Chief.

Bureau of Home Economics.—Louise Stanley, Chief.

Grain Futures Administration.—J. W. T. Duvel, Chief.

Food and Drug Administration.—W. G. Campbell, Chief.

Economic Adviser.—Mordecai Ezekiel.

DEPARTMENT OF COMMERCE

Secretary of Commerce.—Daniel C. Roper.

Assistant Secretaries.—Ernest G. Draper, J. M. Johnson.

Administrative Assistant to the Secretary.—Malcolm Kerlin.

Solicitor.—South Trimble, Jr.

Chief Clerk and Superintendent.—E. W. Libbey.

Chief of Division of Accounts.—Charles E. Molster.

Appointments.—Edward J. Gardner.

Publications.—Thomas F. McKeon.

Purchases and Sales.—Walter S. Erwin.

Librarian.—Charlotte L. Carmody.

Director of Air Commerce.—Eugene L. Vidal.

Director of the Bureau of Census.—William L. Austin.

Director of the Bureau of Foreign and Domestic Commerce.—Alexander V. Dye.

Director of the Bureau of Standards.—Lyman J. Briggs.

Commissioner of the Bureau of Fisheries.—Frank T. Bell.

Commissioner of the Bureau of Lighthouses.—Harold D. King.

Director of the Coast and Geodetic Survey.—R. S. Patton.

Director of the Bureau of Navigation and Steamboat Inspection.—Joseph B. Weaver.

Commissioner of the Patent Office.—Conway P. Coe.

DEPARTMENT OF LABOR

Secretary of Labor.—Frances Perkins.

Charged with the duty of fostering, promoting and developing the welfare of the wage earners of the United States and also working towards a solution of the labor problems.

The Assistant Secretary.—Edward F. McGrady.

Second Assistant Secretary.—Vacant.

Assistants to the Secretary.—Turner W. Battle, Richardson Saunders.

Solicitor.—Vacant.

Chief Clerk.—Samuel J. Gompers.

Director of Conciliation.—Hugh L. Kerwin.

Commissioner of Labor Statistics.—Isador Lubin.

Commissioner General of Immigration and Naturalization.—Daniel W. MacCormack.

Chief of the Children's Bureau.—Katharine F. Lenroot.

Director of the Women's Bureau.—Mary Anderson.

United States Employment Service.—W. Frank Persons, Director.

United States Housing Corporation.—Turner W. Battle, President.

MISCELLANEOUS EXECUTIVE SERVICES

National Recovery Administration.—L. J. Martin, Administrator (acting).

Civil Service Commission.—Harry B. Mitchell, President; Leonard D. White, Mrs. Lucille F. McMillin.

Interstate Commerce Commission.—Hugh M. Tate, Chairman; Balthasar H. Meyer, Clyde B. Aitchison, Joseph B. Eastman, Frank McManamy, Claud R. Porter, William E. Lee, Charles D. Mahaffie, Carroll Miller, Walter M. W. Splawn, Marion M. Caskie.

United States Employees' Compensation Commission.—Mrs. Jewell W. Swofford, Chairman; Harry Bassett, John M. Morin.

General Accounting Office.—J. R. McCarl, Comptroller General of the United States.

United States Railroad Administration.—Henry Morgenthau, Jr., Secretary of the Treasury, Director General.

Federal Reserve Board.—Marriner S. Eccles, Chairman; Adolph C. Miller, Charles S. Hamlin, George R. James, J. J. Thomas, M. S. Szymczak; Henry Morgenthau Jr., J. F. T. O'Connor, Comptroller of the Treasury (ex-officio members).

Federal Trade Commission.—Charles H. March, Chairman; Ewin L. Davis, Garland S. Ferguson, Jr., W. A. Ayres, R. E. Freer, Otis B. Johnson, Secretary.

United States Tariff Commission.—Robert L. O'Brien, Chairman; Thomas Walker Page, Vice Chairman; Oscar B. Ryder, Edgar B. Brossard, Raymond B. Stevens, Sidney Morgan, Secretary.

United States Board of Tax Appeals.—Eugene Black, Chairman.

Federal Power Commission.—Frank R. McNinch, Chairman; Basil Manly, Vice Chairman; Herbert J. Drane, Claude L. Draper, Clyde L. Seavey, Goodrich W. Lineweaver, Secretary.

Federal Home Loan Bank Board.—John A. Fahey, Chairman.

Federal Emergency Administration of Public Works.—Harold L. Ickes, Administrator.

Federal Communications Commission.—Anning S. Prall, Chairman.

Federal Housing Administration.—Stewart McDonald, Administrator.

Veterans' Administration.—Brigadier General Frank T. Hines, Administrator; Omer W. Clark, Assistant Administrator, Pensions; Bynum Cash, Director of the Bureau of National Homes.

Federal Board for Vocational Education.—Frances Perkins, Chairman.

United States Board of Mediation.—William M. Leiserson, Chairman.

United States Shipping Board.—J. C. Peacock, Director.

National Advisory Committee for Aeronautics.—Dr. Joseph S. Ames, Chairman.

Alien Property Bureau.—Urey Woodson, Director.

Board of Surveys and Maps of the Federal Government.—Chairman Vacant.

The Commission of Fine Arts.—Charles Moore, Chairman.

Reconstruction Finance Corporation.—Jesse H. Jones, Chairman.

Smithsonian Institution.—

Established 1846 under the terms of the will of James Smithson for the "increase and diffusion of knowledge among men." The former aim is accomplished by the promoting of original, scientific research, and the latter by publications and lectures. The affairs of the Institution are managed by a Board of Regents which cooperates with the Government and with National scientific bodies. Under the direction of the Institution are the National Museum, charged with preserving and utilizing objects of art and ethnological, geological and mineralogical collections belonging to the United States; Bureau of American Ethnology, National Gallery of Art, Freer Gallery of Art, National Zoölogical Park, Astrophysical Observatory, and the Regional Bureau for the United States International Catalogue of Scientific Literatures.

Secretary.—C. G. Abbott.

National Academy of Sciences.—Frank R. Lillie, President; Frederick E. Wright, Home Secretary; Thomas H. Morgan, Foreign Secretary; Frank R. Lillie, Chairman of the National Research Council.

Pan-American Union.—L. S. Rowe, Director General.

American National Red Cross.—Cary T. Grayson, Chairman.

Tennessee Valley Authority.—Arthur E. Morgan, Chairman.

Farm Credit Administration.—W. I. Myers, Governor.

Federal Coordinator of Transportation.—Joseph B. Eastman.

Federal Emergency Relief Administration.—Harry L. Hopkins, Administrator.

Securities and Exchange Commission.—James M. Landis, Chairman.

MEMBERS OF THE SENATE

Compiled from the Congressional Directory, Year, 1936

(Dates show beginning of service in the Senate. Names of Republicans are in Roman type; those of Democrats in *Italic;* Farmer-Labor in ROMAN CAPS.)

ALABAMA

John H. Bankhead (1931).
Hugo L. Black (1927).

ARIZONA

Henry F. Ashurst (1912).
Carl Hayden (1927).

ARKANSAS

H. W. Caraway (1931).
Joseph T. Robinson (1913).

CALIFORNIA

Hiram W. Johnson (1917).
William G. McAdoo (1933).

COLORADO

Alva B. Adams (1933).
Edward P. Costigan (1931).

CONNECTICUT

Augustine Lonergan (1933).
Francis T. Maloney (1935).

DELAWARE

Daniel O. Hastings (1929).
John G. Townsend, Jr. (1929).

FLORIDA

Duncan U. Fletcher (1909).
Park Trammell (1917).

GEORGIA

Walter F. George (1922).
Richard B. Russell, Jr. (1933).

IDAHO

William E. Borah (1907).
James P. Pope (1933).

ILLINOIS

William H. Dieterich (1933).
James H. Lewis (1931).

INDIANA

Sherman Minton (1935).
Frederick Van Nuys (1933).

IOWA

L. J. Dickinson (1931).
Louis Murphy (1933).

KANSAS

Arthur Capper (1919).
George McGill (1931).

KENTUCKY

Alben W. Barkley (1927).
Marvel M. Logan (1931).

LOUISIANA

John H. Overton (1933).
Vacant

MAINE

Frederick Hale (1917).
Wallace H. White, Jr. (1931).

MARYLAND

George L. Radcliffe (1935).
Millard E. Tydings (1927).

MEMBERS OF THE SENATE

MASSACHUSETTS
Marcus A. Coolidge (1931).
David I. Walsh (1926).

MICHIGAN
James Couzens (1922).
Arthur H. Vandenberg (1928).

MINNESOTA
HENRIK SHIPSTEAD (1923).
Vacant

MISSISSIPPI
Theodore G. Bilbo (1935).
Pat Harrison (1919).

MISSOURI
Bennett C. Clark (1933).
Harry S. Truman (1935).

MONTANA
James E. Murray (1935).
Burton K. Wheeler (1923).

NEBRASKA
Edward R. Burke (1935).
George W. Norris (1913).

NEVADA
Patrick A. McCarran (1933).
Key Pittman (1913).

NEW HAMPSHIRE
Fred H. Brown (1933).
Henry W. Keyes (1919).

NEW JERSEY
W. Warren Barbour (1932).
Arthur H. Moore (1935).

NEW MEXICO
Dennis Chavez (1935).
Carl A. Hatch (1934).

NEW YORK
Royal S. Copeland (1923).
Robert F. Wagner (1927).

NORTH CAROLINA
Josiah W. Bailey (1931).
Robert R. Reynolds (1932).

NORTH DAKOTA
Lynn J. Frazier (1923).
Gerald P. Nye (1925).

OHIO
Robert J. Bulkley (1931).
Vic Donahey (1935).

OKLAHOMA
Thomas P. Gore (1931).
Elmer Thomas (1927).

OREGON
Charles L. McNary (1918).
Frederick Steiwer (1927).

PENNSYLVANIA
James J. Davis (1931).
Joseph F. Guffey (1935).

RHODE ISLAND
Peter G. Gerry (1935).
Jesse H. Metcalf (1924).

SOUTH CAROLINA
James F. Byrnes (1931).
Ellison D. Smith (1909).

SOUTH DAKOTA
William J. Bulow (1931).
Peter Norbeck (1921).

TENNESSEE
Nathan L. Bachman (1933).
Kenneth McKellar (1917).

TEXAS
Tom Connally (1929).
Morris Sheppard (1913).

UTAH
William H. King (1917).
Elbert D. Thomas (1933).

VERMONT
Warren R. Austin (1931).
Ernest W. Gibson (1933).

VIRGINIA
Harry F. Byrd (1933).
Carter Glass (1920).

WASHINGTON
Homer T. Bone (1933).
Lewis B. Schewellenbach (1935).

WEST VIRGINIA
Rush D. Holt (1935).
Matthew N. Neely (1931).

WISCONSIN
F. Ryan Duffy (1933).
Robert M. LaFollette, Jr. (1925).

WYOMING
Robert D. Carey (1931).
Joseph C. O'Mahoney (1933).

MEMBERS OF THE HOUSE OF REPRESENTATIVES

Compiled from the Congressional Directory, Year, 1936

(Dates show beginning of service in the House. Names of Republicans are in Roman type; those of Democrats in *Italic;* Farmer-Labor in ROMAN CAPS.)

ALABAMA
1. *Frank W. Boykin* (1935).
2. *Lister Hill* (1923).
3. *Henry B. Steagall* (1914).
4. *Sam Hobbs* (1935).
5. *Joe Starnes* (1935).
6. *William B. Oliver* (1915).
7. *William B. Bankhead* (1917).
8. *A. H. Carmichael* (1933).
9. *George Huddleston* (1915).

ARIZONA
At Large—*Isabella Greenway* (1933).

ARKANSAS
1. *William J. Driver* (1921).
2. *John E. Miller* (1931).
3. *Claude A. Fuller* (1929).
4. *Ben Cravens* (1933).
5. *David D. Terry* (1934).
6. *John L. McClellan* (1935).
7. *Tilman B. Parks* (1921).

CALIFORNIA
1. *Clarence F. Lea* (1917).
2. Harry L. Englebright (1926).
3. *Frank H. Buck* (1933).
4. Florence P. Kahn (1925).
5. Richard J. Welch (1925).
6. Albert E. Carter (1925).
7. *John H. Tolan* (1935).
8. *John J. McGrath* (1933).
9. Bertrand W. Gearhart (1935).
10. *Henry E. Stubbs* (1933).
11. *John S. McGroarty* (1935).
12. *John H. Hoeppel* (1933).
13. *Charles Kramer* (1933).
14. *Thomas F. Ford* (1933).
15. *John M. Costello* (1935).
16. *John F. Dockweiler* (1933).
17. *Charles J. Colden* (1933).
18. *Byron N. Scott* (1935).
19. Samuel L. Collins (1933).
20. George Burnham (1933).

COLORADO

1. *Lawrence Lewis* (1933).
2. *Fred Cummings* (1933).
3. *John A. Martin* (1933).
4. *Edward T. Taylor* (1909).

CONNECTICUT

At Large—*William M. Citron* (1935).

1. *Herman P. Kopplemann* (1933).
2. William L. Higgins (1933).
3. *James A. Shanley* (1935).
4. Schuyler Merrit (1933).
5. *J. Joseph Smith* (1935).

DELAWARE

At Large—John G. Stewart (1935).

FLORIDA

At Large—*William J. Sears* (1933).

1. *James H. Peterson* (1933).
2. *Robert A. Green* (1925).
3. *Millard F. Caldwell* (1933).
4. *James M. Wilcox* (1933).

GEORGIA

1. *Hugh Peterson, Jr.* (1935).
2. *E. E. Cox* (1925).
3. *Bryant T. Castellow* (1932).
4. *Emmett M. Owen* (1933).
5. *Robert Ramspeck* (1929).
6. *Carl Vinson* (1914).
7. *Malcolm C. Tarver* (1927).
8. *Braswell D. Deen* (1933).
9. *B. Frank Whelchel* (1935).
10. *Paul Brown* (1933).

IDAHO

1. *Compton I. White* (1933).
2. *D. Worth Clark* (1935).

ILLINOIS

At Large—*Martin A. Brennan* (1933).
Vacancy

1. *Arthur W. Mitchell* (1935).
2. *Raymond S. McKeough* (1935).
3. *Edward A. Kelly* (1931).
4. *Harry P. Beam* (1931).
5. *Adolph J. Sabath* (1907).
6. *Thomas J. O'Brien* (1933).
7. *Leonard W. Schuetz* (1931).
8. *Leo Kocialkowski* (1933).
9. *James McAndrews* (1935).
10. Ralph E. Church (1935).
11. Chauncey W. Reed (1935).
12. John T. Buckbee (1926).
13. Leo E. Allen (1933).
14. *Chester Thompson* (1933).
15. *J. LeRoy Adair* (1933).
16. Everett M. Dirksen (1933).
17. Leslie C. Arends (1935).
18. *James A. Meeks* (1933).
19. *Donald C. Dobbins* (1933).
20. *Scott W. Lucas* (1935).
21. *Harry H. Mason* (1935).
22. *Edwin M. Schaefer* (1933).
23. Vacancy.
24. *Claude V. Parsons* (1930).
25. *Kent E. Keller* (1931).

INDIANA

1. *William T. Schulte* (1933).
2. Charles A. Halleck (1935).
3. *Samuel B. Pettengill* (1931).
4. *James I. Farley* (1933).
5. *Glenn Griswold* (1931).
6. *Virginia E. Jenckes* (1933).
7. *Arthur H. Greenwood* (1933).
8. *John W. Boehne, Jr.* (1933).
9. *Eugene B. Crowe* (1931).
10. *Finly H. Gray* (1933).
11. *William H. Larrabee* (1931).
12. *Louis Ludlow* (1929).

IOWA

1. *Edward C. Eicher* (1933).
2. *Bernhard M. Jacobsen* (1931).
3. John W. Gwynne (1935).
4. *Fred Biermann* (1933).
5. Lloyd Thurston (1933).
6. *Hubert Utterback* (1935).
7. *Otha D. Wearin* (1933).
8. Fred C. Gilchrist (1931).
9. *Guy M. Gillette* (1933).

KANSAS

1. W. P. Lambertson (1929).
2. U. S. Guyer (1926).
3. *Edward W. Patterson* (1935).
4. *Randolph Carpenter* (1933).
5. *John M. Houston* (1935).
6. Frank Carlson (1935).
7. Clifford R. Hope (1926).

KENTUCKY

1. *William V. Gregory* (1927).
2. *Glover H. Carey* (1931).
3. *Emmet O'Neal* (1935).
4. *Edward W. Creal* (1935).
5. *Brent Spence* (1931).
6. *Virgil Chapman* (1931).
7. *Andrew J. May* (1931).
8. *Fred M. Vinson* (1931).
9. John M. Robsion (1935).

LOUISIANA

1. *Joachim O. Fernandez* (1931).
2. *Paul H. Maloney* (1931).
3. *Numa F. Montet* (1929).
4. *John N. Sandlin* (1921).
5. *R. J. Wilson* (1915).
6. *Jared Y. Sanders, Jr.* (1934).
7. *R. L. DeRouen* (1927).
8. *Cleveland Dear* (1933).

MAINE

1. *Simon M. Hamlin* (1935).
2. *Edward C. Moran, Jr.* (1933).
3. Ralph O. Brewster (1935).

MARYLAND

1. *T. A. Goldsborough* (1921).
2. *Wm. P. Cole, Jr.* (1931).
3. *V. L. Palmisano* (1927).
4. *Ambrose J. Kennedy* (1932).
5. *S. W. Gambrill* (1924).
6. *David J. Lewis* (1931).

MASSACHUSETTS

1. A. T. Treadway (1913).
2. *W. J. Granfield* (1930).
3. *Joseph E. Casey* (1935).
4. Pehr G. Holmes (1931).
5. Edith N. Rogers (1925).
6. A. Piatt Andrew (1921).
7. *W. P. Connery, Jr.* (1923).
8. *Arthur D. Healey* (1933).
9. *Richard M. Russell* (1935).
10. G. H. Tinkham (1915).
11. *John P. Higgins* (1935).
12. *J. W. McCormack* (1928).
13. R. B. Wigglesworth (1928).
14. J. W. Martin, Jr. (1925).
15. Charles L. Gifford (1922).

MICHIGAN

1. *George G. Sadowski* (1933).
2. Earl C. Michener (1935).
3. Verner W. Main (1935).
4. Clare E. Hoffman (1935).
5. Carl E. Mapes (1913).
6. William W. Blackney (1935).
7. Jesse P. Wolcott (1931).
8. Fred L. Crawford (1935).
9. Albert J. Engel (1935).
10. Roy O. Woodruff (1921).
11. *Prentiss M. Brown* (1933).
12. *Frank E. Hook* (1935).
13. C. J. McLeod (1923).
14. *Louis C. Rabaut* (1935).
15. *John D. Dingell* (1933).
16. *John Lesinski* (1933).
17. George A. Dondero (1933).

MINNESOTA

1. August H. Andresen (1935).
2. *Elmer J. Ryan* (1935).
3. ERNEST LUNDEEN (1933).
4. Melvin J Maas (1935).
5. Theodore Christianson (1933).
6. Harold Knutson (1917).
7. PAUL J. KVALE (1923).
8. William A. Pittenger (1935).
9. RICHARD T. BUCKLER (1935).

MISSISSIPPI

1. *John E. Rankin* (1921).
2. *Wall Doxey* (1929).
3. *W. M. Whittington* (1925).
4. *A. L. Ford* (1935).
5. *Aubert C. Dunn* (1935).
6. *William M. Colmer* (1933).
7. *Dan R. McGehee* (1935).

MISSOURI

1. *M. A. Romjue* (1923).
2. *William L. Nelson* (1935).
3. *Richard M. Duncan* (1933).
4. *Charles J. Bell* (1935).
5. *Joseph B. Shannon* (1931).
6. *Reuben T. Wood* (1933).
7. Dewey Short (1935).
8. *Clyde Williams* (1931).
9. *Clarence Cannon* (1923).
10. *Orville Zimmerman* (1935).
11. *Thomas C. Hennings, Jr.* (1935).
12. *James R. Claiborne* (1933).
13. *John J. Cochran* (1927).

MONTANA

1. *Joseph P. Monaghan* (1933)
2. *Roy E. Ayers* (1933).

NEBRASKA

1. *Henry C. Luckey* (1935).
2. *Charles F. McLaughlin* (1935).
3. Karl Stefan (1935).
4. *Charles G. Binderup* (1935).
5. *Harry B. Coffee* (1935).

NEVADA

At Large—*James G. Scrugham* (1933).

NEW HAMPSHIRE

1. *William N. Rogers* (1932).
2. Charles W. Tobey (1933).

NEW JERSEY

1. C. A. Wolverton (1926).
2. Isaac Bacharach (1915).
3. *William H. Sutphin* (1931).
4. D. Lane Powers (1933).
5. Charles A. Eaton (1925).
6. Donald H. McLean (1933).
7. Randolph Perkins (1921).
8. George N. Seger (1923).
9. *Edward A. Kenney* (1933).
10. F. A. Hartley, Jr. (1929).
11. Peter A. Cavicchia (1931).
12. Frederick R. Lehlbach (1915).
13. *Mary T. Norton* (1925).
14. *Edward J. Hart* (1935).

NEW MEXICO

At Large—*John J. Dempsey* (1935).

NEW YORK

At Large—*Matthew J. Merritt* (1935).
Caroline O'Day (1935).

1. Robert L. Bacon (1923).
2. *W. B. Barry* (1935).
3. *Joseph L. Pfeifer* (1935).
4. *Thomas H. Cullen* (1919).
5. *Marcellus H. Evans* (1935).
6. *Andrew L. Somers* (1925).
7. *John J. Delaney* (1931).
8. *Richard J. Tonry* (1935).
9. *Stephen A. Rudd* (1931).
10. *Emanuel Celler* (1923).
11. *James A. O'Leary* (1935).
12. *Samuel Dickstein* (1923).
13. *C. D. Sullivan* (1917).
14. *W. I. Sirovich* (1927).
15. *John J. Boylan* (1923).
16. *J. J. O'Connor* (1923).
17. *Theodore A. Peyser* (1933).
18. *M. J. Kennedy* (1930).
19. *Sol Bloom* (1923).
20. Vito Marcantonio (1935).
21. *J. A. Gavagan* (1929).
22. *Edward W. Curley* (1936).
23. *Charles A. Buckley* (1935).
24. *J. M. Fitzpatrick* (1926).
25. Charles D. Millard (1931).
26. Hamilton Fish, Jr. (1920).
27. Philip A. Goodwin (1933).
28. *Parker Corning* (1923).
29. William D. Thomas (1934).
30. Frank Crowther (1919).
31. Bertrand H. Snell (1915).
32. Francis D. Culkin (1928).
33. *Fred J. Sisson* (1933).
34. Bert Lord (1935).
35. C. E. Hancock (1927).
36. John Taber (1923).
37. W. Sterling Cole (1935).
38. *James P. B. Duffy* (1935).
39. James W. Wadsworth (1933).
40. Walter G. Andrews (1931).
41. *Alfred F. Beiter* (1933).
42. *James M. Mead* (1919).
43. Daniel A. Reed (1919).

NORTH CAROLINA

1. *Lindsay C. Warren* (1925).
2. *John H. Kerr* (1923).
3. *Graham A. Barden* (1935).
4. *Harold D. Cooley* (1935).
5. *F. W. Hancock, Jr.* (1930).
6. *William B. Umstead* (1933).
7. *J. Bayard Clark* (1929).
8. *John W. Lambeth* (1931).
9. *R. L. Doughton* (1911).
10. *A. L. Bulwinkle* (1931).
11. *Zebulon Weaver* (1931).

NORTH DAKOTA

At Large—Usher L. Burdick (1935).
William Lemke (1933).

OHIO

At Large—
Stephen M. Young (1933).
Vacancy

1. John B. Hollister (1931).
2. William E. Hess (1929).
3. *Byron B. Harlan* (1931).
4. *Frank L. Kloeb* (1933).
5. *Frank C. Kniffin* (1931).
6. *James G. Polk* (1931).
7. Leroy T. Marshall (1933).
8. *Brooks Fletcher* (1933).
9. *Warren Duffey* (1933).
10. T. A. Jenkins (1925).
11. *M. G. Underwood* (1923).
12. *Arthur P. Lamneck* (1931).
13. *William L. Fiesinger* (1931).
14. *Dow W. Harter* (1933).
15. *Robert T. Secrest* (1933).
16. *William R. Thom* (1933).
17. *William A. Ashbrook* (1935).
18. *Lawrence E. Imhoff* (1933).
19. John G. Cooper (1915).
20. *Martin L. Sweeney* (1931).
21. *Robert Crosser* (1923).
22. Chester C. Bolton (1929).

OKLAHOMA

At Large—*Will Rogers* (1933).

1. *Wesley E. Disney* (1931).
2. *Jack Nichols* (1935)
3. *Wilburn Cartwright* (1927).
4. *P. L. Gassaway* (1935).
5. *Josh Lee* (1935).
6. *Jed Johnson* (1926).
7. *Sam C. Massingale* (1935).
8. *Phil Ferguson* (1935).

OREGON

1. James W. Mott (1933).
2. *Walter M. Pierce* (1933).
3. William A. Ekwall (1935).

PENNSYLVANIA

1. Harry C. Ransley (1920).
2. William H. Wilson (1935).
3. Clare G. Fenerty (1935).
4. *John B. Daly* (1935).
5. *Frank J. G. Dorsey* (1935).
6. *Michael J. Stack* (1935).
7. George P. Darrow (1915).
8. James Wolfenden (1928).
9. *Oliver W. Frey* (1933).
10. J. R. Kinzer (1930).
11. *Patrick J. Boland* (1931)
12. C. M. Turpin (1929).
13. *James H. Gildea* (1935).
14. *William E. Richardson* (1933).
15. *C. Elmer Dietrich* (1935).
16. Robert F. Rich (1930).
17. J. William Ditter (1933).
18. Benjamin K. Focht (1933).
19. Isaac H. Doutrich (1926).
20. *D. J. Driscoll* (1935).
21. *Francis E. Walter* (1933).
22. *Harry L. Haines* (1931).
23. *Don Gingery* (1935).
24. *J. Buell Snyder* (1933).
25. *Charles I. Faddis* (1933).
26. *Charles R. Eckert* (1935).
27. *Joseph Gray* (1935).
28. *William M. Berlin* (1933).
29. *Charles N. Crosby* (1933).
30. *J. Twing Brooks* (1933).
31. *James L. Quinn* (1935).
32. *Theodore L. Moritz* (1935).
33. *Henry Ellenbogen* (1933).
34. *Matthew A. Dunn* (1933).

RHODE ISLAND

1. Charles F. Risk (1935).
2. *John M. O'Connell* (1933).

SOUTH CAROLINA

1. *T. S. McMillan* (1925).
2. *H. P. Fulmer* (1921).
3. *John C. Taylor* (1933).
4. *John J. McSwain* (1921).
5. *James P. Richards* (1933).
6. *Allard H. Gasque* (1928).

SOUTH DAKOTA

1. *Fred H. Hildebrandt* (1933).
2. *Theodore B. Werner* (1933)

TENNESSEE

1. B. Carroll Reece (1933).
2. J. Will Taylor (1919).
3. *S. D. McReynolds* (1923).
4. *John R. Mitchell* (1931).
5. *Joseph W. Byrns* (1909).
6. *Clarence W. Turner* (1933).
7. *Herron Pearson* (1935).
8. *Jere Cooper* (1929).
9. *Walter Chandler* (1935).

TEXAS

1. *Wright Patman* (1929).
2. *Martin Dies* (1931).
3. *Morgan G. Sanders* (1921).
4. *Sam Rayburn* (1913).
5. *H. W. Sumners* (1913).
6. *Luther A. Johnson* (1923).
7. *Nat Patton* (1935).
8. *Joe H. Eagle* (1933).

9. *J. J. Mansfield* (1917).
10. *J. P. Buchanan* (1913).
11. *O. H. Cross* (1929).
12. *Fritz G. Lanham* (1919).
13. *William D. McFarlane* (1933).
14. *Richard M. Kleberg* (1931).
15. *Milton H. West* (1933).
16. *Robert E. Thomason* (1931).
17. *T. L. Blanton* (1916).
18. *Marvin Jones* (1917).
19. *George H. Mahon* (1935).
20. *Maury Maverick* (1935).
21. *Charles L. South* (1935).

UTAH

1. *Abe Murdock* (1933).
2. *J. W. Robinson* (1933).

VERMONT

At Large—Charles A. Plumley (1935).

VIRGINIA

1. *Schuyler O. Bland* (1918).
2. *Colgate W. Darden, Jr.* (1933).
3. *A. J. Montague* (1913).
4. *Patrick H. Drewry* (1920).
5. *Thomas G. Burch* (1931).
6. *C. A. Woodrum* (1923).
7. *A. Willis Robertson* (1933)
8. *Howard W. Smith* (1931).
9. *John W. Flannigan, Jr.* (1931).

WASHINGTON

1. *Marion A. Zioncheck* (1933).
2. *Monrad C. Wallgren* (1933).
3. *Martin F. Smith* (1933).
4. *Knute Hill* (1933).
5. *Samuel B. Hill* (1923).
6. *Wesley Lloyd* (1933).

WEST VIRGINIA

1. *Robert L. Ramsay* (1933).
2. *Jennings Randolph* (1933).
3. *Andrew Edmiston* (1933).
4. *George W. Johnson* (1933).
5. *John Kee* (1933).
6. *Joe L. Smith* (1929).

WISCONSIN

1. Thomas R. Amlie (1935).
2. Harry Sauthoff (1935).
3. Gardner R. Withrow (1931).
4. *Raymond J. Cannon* (1933).
5. *Thomas O'Malley* (1933).
6. *Michael K. Reilly* (1913).
7. Gerald J. Boileau (1931).
8. George J. Schneider (1935).
9. Merlin Hull (1935).
10. B. J. Gehrmann (1935).

WYOMING

At Large—*Paul R. Greever* (1935).

ALASKA

Anthony J. Dimond (1933).

HAWAII

Samuel W. King (1935).

PHILIPPINE ISLANDS

1. Pedro Guevara (1923).
2. Francisco A. Delgado (1935).

PUERTO RICO

Santiago Iglesias (1933).

FEDERAL JUDICIAL ORGANIZATION

By William M. Schuyler

Associate Editor, *The American Year Book*

SUPREME COURT OF THE UNITED STATES

Charles Evans Hughes (New York), Chief Justice of the United States, appointed 1930.

Willis Van Devanter (Wyoming), appointed 1910.

James Clark McReynolds (Kentucky), appointed 1914.

Louis Dembitz Brandeis (Kentucky), appointed 1916.

George Sutherland (Utah), appointed 1922.

Pierce Butler (Minnesota), appointed 1923.

Harlan F. Stone (New Hampshire), appointed 1925.

Owen J. Roberts (Pennsylvania), appointed 1930.

Benjamin N. Cardozo (New York), appointed 1932.

Officers of the Supreme Court:

Clerk.—Charles Elmore Cropley.

Deputy Clerks.—Reginald C. Dilli, Hugh W. Barr.

Marshal.—Frank Key Green.

Reporter.—Ernest Knaebel.

CIRCUIT COURT OF APPEALS OF THE UNITED STATES

First Circuit.—Mr. Justice Brandeis; George Hutchins Bingham (New Hampshire), Scott Wilson (Maine), James M. Morton, Jr. (Massachusetts).

Second Circuit.—Mr. Justice Stone; Martin T. Manton (New York), Learned Hand (New York), Thomas W. Swan (Connecticut), Augustus N. Hand (New York), Harrie Brigham Chase (Vermont), Julian W. Mack (New York).

Third Circuit.—Mr. Justice Roberts; Joseph Buffington (Pennsylvania), J. Warren Davis (New Jersey), Victor B. Woolley (Delaware), J. Whitaker Thompson (Pennsylvania).

Fourth Circuit.—Mr. Chief Justice Hughes; John J. Parker (North Carolina), Elliott Northcott (West Virginia), Morris A. Soper (Maryland).

Fifth Circuit.—Mr. Justice Cardozo; Rufus E. Foster (Louisiana), Samuel H. Sibley (Louisiana), Joseph C. Hutcheson, Jr. (Texas), Vacancy.

Sixth Circuit.—Mr. Justice McReynolds; Charles H. Moorman (Kentucky), Xenophon Hicks (Tennessee), Julian W. Mack (New York), Charles C. Simons (Michigan), Florence E. Allen (Ohio).

Seventh Circuit.—Mr. Justice Van Devanter; Samuel Alschuler (Illinois), Evan A. Evans (Wisconsin), William M. Sparks (Indiana), Louis Fitzhenry (Illinois).

Eighth Circuit.—Mr. Justice Butler; Kimbrough Stone (Missouri), John B. Sanborn (Minnesota), Archibald K. Gardner (South Dakota), Joseph W. Woodrough (Nebraska), Seth Thomas (Iowa).

Ninth Circuit.—Mr. Justice Sutherland; Curtis D. Wilbur (California), Francis A. Garrecht (Washington), William Denman (California), Clifton Mathew (Arizona), Bert Haney (Oregon).

Tenth Circuit.—Mr. Justice Van Devanter; Robert E. Lewis (Colorado), Orie L. Phillips (Colorado), George T. McDermott (Kansas), Sam G. Bratton (New Mexico).

UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

William J. Graham (Illinois), Presiding Judge, appointed 1924.

Oscar E. Bland (Indiana), appointed 1923.

Charles Sherrod Hatfield (Ohio), appointed 1923.

Finis James Garrett (Tennessee), appointed 1929.

Irvine L. Lenroot (Wisconsin), appointed 1929.

COURT APPEALS OF THE DISTRICT OF COLUMBIA

George E. Martin, Chief Justice.
Charles H. Robb.
Josiah A. Van Orsdel.
D. Lawrence Groner.
Harold M. Stephens.

COURT OF CLAIMS OF THE UNITED STATES

Fenton Whitlock Booth (Illinois), Chief Justice, appointed 1928.

William Raymond Green (Iowa), appointed 1928.

Benjamin H. Littleton (Tennessee), appointed 1929.

Thomas S. Williams (Illinois), appointed 1929.

Richard Smith Whaley (South Carolina), appointed 1930.

SUPREME COURT OF THE DISTRICT OF COLUMBIA

Alfred A. Wheat, Chief Justice.
James M. Proctor.
F. Dickinson Letts.
Daniel W. O'Donoghue.
Jennings Bailey.
Peyton Gordon.
Oscar R. Luhring.
Joseph W. Cox.
Jesse C. Adkins.

UNITED STATES CUSTOMS COURT

Charles P. McClelland, Presiding Judge.
Walter H. Evans.
William J. Tilson.
Jerry B. Sullivan.
George Stewart Brown.
Frederick W. Dallinger.
Genevieve R. Cline.
David H. Kincheloe.
William J. Keefe.

UNITED STATES MARSHAL'S OFFICE

United States Marshal.—John P. Colpoys.

Chief Deputy Marshal.—Thomas E. Ott.

UNITED STATES ATTORNEY'S OFFICE

United States Attorney, District of of Columbia.—Leslie C. Garnett.

Assistants.—John W. Fihelly, David A. Hart, Charles B. Murray, Isadore I. Goldstein, John J. Wilson, Roger Robb, David A. Pine, Harry L. Underwood, Karl Kindleberger, George E. McNeil, Cecil R. Heflin, Henry A. Schweinhaut, Samuel F. Beach, Louis L. Whitestone, Clinton D. Vernon, Allen J. Krouse, William Hitz, Jr., Eugene Carusi, Arthur B. Caldwell, Arthur J. McLaughlin.

III. THE NATIONAL GOVERNMENT

FEDERAL PROSECUTIONS AND JUDICIAL DECISIONS

By Erwin N. Griswold

Professor, Harvard Law School

NEW DEAL LEGISLATION

The most significant Federal judicial decisions of the year 1935 were as usual contained in the opinions of the Supreme Court. The leading cases in the Supreme Court involving questions of general constitutional law are discussed elsewhere (see ''The Supreme Court and Constitutional Law'' pp. 31-55) and, accordingly, they are not considered here. The year was, however, fruitful of other decisions both by the Supreme Court and the lower Federal courts. Most of the significant cases in the lower courts involved some problem raised by the new legislation of the Roosevelt Administration.

The first several months of the year found the courts cluttered with a great mass of litigation arising under the NRA.* These cases, of course, passed from the books and became of no significance when the Supreme Court held the Recovery Act unconstitutional on May 27. The volume of this litigation was to some extent indicative of the growing opposition to the Recovery Act. This opposition was perhaps the most significant aspect of Federal judicial activity in the early months of the year.

PROCESSING TAX CASES

At the very time that the NRA cases were becoming moot as a result of the Supreme Court's decision, a new flood of cases came to the lower Federal courts involving another New Deal act. When the Supreme Court held the Recovery Act unconstitutional its opinion cast grave doubts on the validity of the processing taxes imposed by the Agricultural Adjustment Act. These taxes had produced nearly $1,000,000,000 revenue in a year's time, and the money thus raised was the backbone of the Administration's agricultural policy.

The Administration, sensing the danger, first undertook a too heroic method of defense. A bill was introduced in Congress which, if enacted, would have prevented any refunds of processing taxes paid before its enactment. Thus, the government threatened to keep the money it had raised even though the tax was unconstitutional. Processors, threatened with the loss of the right to obtain refunds of the taxes if they were illegally collected, were, therefore, left no recourse but to seek to enjoin the collection of the taxes. Although a Federal statute expressly provides that no suit shall be brought or maintained in any court to enjoin the collection of any tax, the lower courts regarded the situation as so extraordinary that almost without exception they granted the injunctions asked for. In all, something over 1,600 such injunctions had been granted by the end of the summer. The granting of these injunctions did not necessarily involve determination that the taxes were invalid. They operated merely to stay proceedings until the validity of the taxes could be determined. But their effect was to cut down Treasury receipts from processing taxes from $100,000,000 a month to almost nothing.

In the meantime, one case had made its way out of the lower courts. In Butler *v.* United States, 78 F.(2d) 1, the Circuit Court of Appeals for the First Circuit was called upon to decide the validity of the processing taxes on the merits. Although one member of the court dissented, the decision of the majority was sweepingly against the government. The Agricultural Adjustment Act was held to be beyond the power of Congress as a regulation of commerce, and the method of imposing the processing taxes was held to be an invalid delegation of legislative authority. The government promptly sought review of the decision by the Supreme Court. The review was granted and the case was argued early in December. No decision had been made by the end of the year.

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*National Recovery Administration.

COTTON AND TOBACCO ACTS

Two other Acts of Congress relating to agriculture were attacked before the courts during the year. In the Cotton Control Act, Congress sought to regulate the amount of cotton grown by imposing a prohibitive tax on all cotton produced by a planter in excess of a quota allotted to him. The Act provided for the issuance of bale tags to each planter for the amount of cotton which he was allowed to produce within his quota, and railroad companies were forbidden to transport cotton which did not bear one of these tags. In Moore *v.* Texas & New Orleans Railroad Company, 75 F.(2d) 386 (C.C.A.5th), the court refused to grant an injunction compelling a railroad to accept cotton for transportation which did not bear the required bale tags. The court, however, did not find it necessary to pass upon the validity of the Cotton Control Act. It denied the injunction chiefly as a matter of equitable discretion. This discretion was in a considerable measure affected by the fact that the plaintiff had sought and obtained the benefits of the Cotton Act and in doing so had agreed to comply with it. This case, too, was carried to the Supreme Court, and was argued there just before the close of the year.

A statute closely similar in purpose and form to the Cotton Control Act is the Tobacco Control Act. This statute was held unconstitutional by a district court in Penn *v.* Glenn, 10 F. Supp. 483, which granted a declaratory judgment that the statute was beyond the constitutional power of Congress because its purpose was to regulate a matter solely within the control of the states. A review of this decision was prevented when Congress during the summer passed a statute taking away from the courts all jurisdiction to grant declaratory judgments in tax matters.

GUFFEY COAL ACT

Another statute in which Congress sought to use the power of taxation in order to control production is the Guffey Coal Act, enacted near the close of the 1935 session of Congress. This statute imposed a substantial tax on the production of coal, with a provision that 90 per cent of this tax should be rebated to the producers who accepted a code prescribed by the Bituminous Coal Board set up by the Act. This statute, like the Cotton Control and Tobacco Control Acts, seems to be indistinguishable from the tax which was held invalid in the Child Labor Tax Case, 259 U.S. 20. It was not surprising, therefore, that several proceedings were started to contest its validity. In the first of these, R. C. Tway Coal Co. *v.* Glenn, decided near the end of the year, a district court held that the statute in its entirety was valid as a regulation of interstate commerce. The opinion recognized that it went beyond previous decisions, but justified this on the ground that "improved methods of transportation and communication or close association of communities" have removed the basis underlying the earlier cases. Whether the Supreme Court will accept this view remains, of course, to be seen.

In another case under the Guffey Coal Act, Carter *v.* Carter Coal Company, the Supreme Court of the District of Columbia held that the price-fixing aspects of the statute were valid, but that it was invalid so far as the code imposed on the producers sought to regulate hours of labor and wages. These latter were held to be matters of local concern subject only to state regulation.

SECURITIES ACT

Although the Securities Act has been on the statute books in substance for more than two years, it has been subjected to very few court tests. Such a test was presented, however, in Jones *v.* Securities & Exchange Commission, where the court, Second Circuit Court of Appeals, late in the year, decided every point in favor of the validity of the Act. In particular the court held that Congress might validly exclude from the mails securities which were not registered under the Act. The court further held that the Securities Act did not involve any unconstitutional delegation of legislative powers by Congress. Congress had sufficiently declared its policy, the court said, and the Commission was given power only to provide the flexible details necessary for carrying this policy into execution.

PUBLIC UTILITY ACT

Another statute enacted at the close of the 1935 session of Congress was the Public Utility Holding Company Act. Although the administration of this Act is confided to the Securities and Exchange Commission, its constitutional validity appears to be much more doubtful than is the case with the Securities Act itself. Shortly after the Holding Company Act was passed, the utilities sought to obtain a court test of its validity. In order to raise the question, the trustee of a utility which was being reorganized in the District Court of Maryland asked instructions as to whether he should register under the Holding Company Act. The Securities and Exchange Commission was allowed to intervene, and it contended that the proceeding was really a feigned issue and did not represent a real controversy between any parties in the case. The court, however, in In re American States Public Service Company, rejected this contention and decided sweepingly that the Holding Company Act was unconstitutional in its entirety. The court based this conclusion on the ground that the Act went beyond the sphere of permissible Federal power, and because it conflicted with the due process clause of the Fifth Amendment. Other courts, however, refused to pass upon the validity of the statute in such a proceeding. In In re Central West Public Service, the District Court for Delaware refused to consider an application of trustees for instructions as to whether they should register under the Act, since the government was not in any way a party to the proceeding.

December 1 was the date fixed by the Act for the registration of all public utility holding companies. Shortly before that date most of the holding companies announced that they would not register and that they had brought proceedings to enjoin the enforcement of the statute. None of these cases had been determined on the merits when the year closed.

TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority, likewise, has been in existence for more than two years, with little or no test of constitutionality in the courts. This is due in large part to the fact that it is extremely difficult to frame a case which will raise the constitutional issues. This difficulty appeared in the one case which did make its way through the courts during the year. In Tennessee Valley Authority *v.* Ashwander, 78 F.(2d) 578, the Circuit Court of Appeals for the Fifth Circuit upheld the validity of the Tennessee Valley Authority Act in a suit which was brought by a stockholder of a company to enjoin performance by the company of a contract which it had made with the Tennessee Valley Authority. It seems doubtful whether a shareholder has any standing to raise constitutional issues of this sort in such a proceeding. The case was taken to the Supreme Court near the end of the year. It is not clear, however, that the Supreme Court will find it necessary to pass upon the validity of the Tennessee Valley Authority Act as a whole. It may conclude, instead, that the plaintiff did not as a shareholder have sufficient interest to bring the present suit. If such should be the conclusion, counsel will be faced with a very difficult problem as to how the validity of the Act may be presented to the courts.

PUBLIC WORKS ADMINISTRATION

A number of cases during the year raised the question of the power of the Federal government through the Public Works Administration to make loans or grants to cities. These proceedings were usually brought by public utilities which sought to prevent the erection of competing municipal electric plants financed with Federal funds. Similar questions had been raised the year before, and, as then, the decisions usually went against the private utilities. This was the case in Kansas City Gas & Electric Company *v.* City of Independence, 79 F.(2d) 32, where the Circuit Court of Appeals for the Tenth Circuit held that the loan or grant in question was for a public purpose and was part of a project national in scope and character. Similar results were also reached by several district courts.

So long as the government is only spending money, therefore, opposition to its actions seems unlikely to succeed. But the result may be different when the government seeks to invoke some other power in connection with its spending power. This issue has been particularly raised with respect to the power of eminent domain. Can the government compel an owner of land to sell his land as part of a public works project? This question was answered in the negative by the Circuit Court of Appeals for the Sixth Circuit in United States *v.* Certain Lands in Louisville, 78 F.(2d) 684. The court held that the Constitution did not grant Congress powers sufficiently broad to authorize the condemnation of private property for a low-cost housing and slum-clearance project. The decision was not reached without dissent, however. The case has since been carried to the Supreme Court where it awaited decision at the end of the year.

SECOND FRAZIER-LEMKE ACT

After the first Frazier-Lemke Act was held unconstitutional by the Supreme Court early in the year, Congress passed a second act designed to have much the same effect in relieving debtors. This new act was hastily and rather crudely drawn. It sought to meet some of the points which had led to the invalidation of the earlier act. In other respects it seemed to pay little heed to the Supreme Court's decision. In any event, it seems unlikely to meet a better fate than did its predecessor. It, too, was held unconstitutional by the Circuit Court of Appeals for the Seventh Circuit near the end of the year (Lafayette Life Insurance Company *v.* Lowman), and a similar result was reached in two District Court cases (*In re Young; In re Sherman*).

RECONSTRUCTION FINANCE CORPORATION

During the year 1934 the Reconstruction Finance Corporation purchased large amounts of stock in banks throughout the country in an effort to bolster up their reserves. The question was soon raised whether this stock was subject to taxation by the states. It is clear that the states may not tax property owned by the United States, but it is not so clear that property owned by the Reconstruction Finance Corporation must be treated as property owned by the United States although the United States is the sole stockholder in the corporation. The question was raised in two cases during the year, one in a Federal court and another in a state court. In United States and Reconstruction Finance Corporation *v.* Lewis, 10 F. Supp. 471, a three judge District Court held that such shares were not subject to taxation by Kentucky. The contrary result was reached by the Maryland Court of Appeals in State Tax Commission *v.* Baltimore National Bank, and the latter decision was pending before the Supreme Court of the United States at the close of the year. When the question is raised as to the power of the Federal Government to tax state activity, a distinction is drawn between state action which is ''essentially governmental'' on the one hand, and action which is ''proprietary'' on the other. No Supreme Court case has yet drawn this distinction with respect to state taxation of Federal activity. It seems difficult to see, however, why such a distinction should not be drawn. Unless it is, large areas of the present field of state taxation may be withdrawn into the fold of constitutional immunity, thus seriously hampering the states. It was the very fear of such a hampering of the Federal Government which led to the development of the rule that state activity is subject to Federal taxation if it is ''proprietary'' in nature.

ANTI-TRUST LAWS

Only two cases of importance were brought during the year under the Sherman and Clayton Acts, and in both of them the government was unsuccessful. In United States *v.* Republic Steel Corporation, 11 F. Supp. 117, a District Court refused to grant an injunction at the behest of the government to prevent the merger of the Republic Steel Corporation with several other steel manufacturers. The government did not appeal the case and the merger has now in part been carried into effect. The other major anti-trust proceeding was a criminal prosecution brought in St. Louis against several motion picture distributors charging them with improper practices in connection with "block booking." The government indulged in a good deal of publicity in connection with the case but the jury brought in a verdict acquitting the defendants, and this, of course, put a stop to further proceedings in the matter.

POWER OF CONGRESS TO INVESTIGATE

The Supreme Court greatly strengthened the power of the committees of Congress to carry on investigations, when, in Jerney *v.* MacCracken, 294 U.S. 125, it upheld the power of the Senate to sentence for contempt a witness who had destroyed papers after receiving a subpoena to produce them before a Senate committee. In reaching this result, the Supreme Court reversed the decision of the lower court, which was referred to in this article last year, and removed doubts as to the powers of Congress which had resulted from previous decision.

THE HUMPHREYS CASE

In 1926, the Supreme Court decided in Myers *v.* United States, 272 U.S. 52, that Congress could not by statute prevent the removal of a postmaster by the President. In exhaustive opinions, the court considered the entire field of executive control over the removal of government officers and held in general terms that any attempt by Congress to regulate such removal was unconstitutional. In reliance on this decision, the President undertook to remove William E. Humphreys as a member of the Federal Trade Commission. The removal was undoubtedly practically effective, as Mr. Humphreys left the Commission and a successor was appointed to take his place. Mr. Humphreys, however, brought suit in the Court of Claims to recover his salary and the issue was thus presented whether he had been validly removed. The Court of Claims certified the question to the Supreme Court, and that Court, to the surprise and discomfiture of the Administration, held in Humphrey's Executor *v.* United States, 295 U.S. 602, that the President's action had been unauthorized. Congress had provided that members of the Federal Trade Commission could be removed only for cause, and the President had not suggested that Mr. Humphreys had conducted himself in such a way as to merit removal for cause. The Supreme Court held that its broad language in the Myers case could be read only in the light of the question then before it which involved the removal of a postmaster. A member of the Federal Trade Commission was held to be not a purely executive or administrative officer. His functions were semi-judicial in nature, and such an officer, the court held, could be given a tenure by Congress substantially independent of the President.

TAX CASES

Evasion and Avoidance.—The Supreme Court and the lower Federal courts continued to devote a considerable amount of their time to extremely technical and complicated issues raised in tax matters. Nearly ten years ago, a leading tax lawyer was quoted as saying that nearly all the tax questions had then been decided and there was little left for further litigation. This seems in fact to have been a very poor prophecy, for the volume of tax cases has increased almost without interruption ever since. Although people familiar with tax matters knew that evasion and avoidance were possible to a considerable extent under the Federal tax statutes, it was not until the matter was rather spectacularly called to the attention of Congress that serious efforts were made to eliminate such practices by amendments in the statutes. The Revenue acts of the last few years have contained more and more provisions designed to close up holes. The courts, too, have realized the merit of this policy of Congress and have indicated no desire to interfere with it. Two cases decided during the past year illustrate the attitude of the Supreme Court.

Corporate Reorganizations.—In

Gregory *v.* Helvering, 293 U.S. 465, the court considered a case under the complicated reorganization provisions of the tax statutes. These provisions make corporate reorganizations tax free under certain conditions, and the tax payer in the Gregory case had done everything to show a literal compliance with these conditions. The transaction was in substance, however, the declaration of a dividend and not a corporate reorganization. The Supreme Court held that the corporate reorganization provisions should not be construed literally but should be held to require a transaction which was in substance a corporate reorganization. It accordingly held the tax payer liable for taxes on the transaction in question although it had complied with the literal terms of the statute granting exemption from taxation.

Alimony Trust.—A somewhat similar case is Douglas *v.* Wilcutts, 296 U.S. In that case the tax payer set up an irrevocable trust as part of an alimony settlement on his wife in connection with a divorce. He contended that the income of the trust was no longer his and was, therefore, not taxable to him. The Supreme Court held, however, that the trust served to discharge a burden which was legally his, that the payment of the trust income was, therefore, of direct benefit to him and that the Commissioner of Internal Revenue was justified in taxing the income to him.

Mitchell Case.—Two cases before the Board of Tax Appeals attracted considerable attention during the year. In the case of Mitchell *v.* Commissioner, 32 B.T.A. 1093, the Board affirmed a deficiency and penalty of more than $1,000,000 against Charles E. Mitchell, one-time president of the National City Bank of New York. The Board held that purported sales of property between Mr. Mitchell and his wife were not *bona fide* transactions. It also held that Mr. Mitchell should have reported as income certain large bonuses which he received. Mr. Mitchell had previously been acquitted by a jury of criminal charges growing out of the same transactions. The Board nevertheless held that the Commissioner was justified in imposing a penalty for fraud.

Mellon Case.—The other case before the Board was that involving the tax liability of Andrew W. Mellon, former Secretary of the Treasury. The hearings in this case were extremely protracted and developed much controversial evidence. The matter had not been decided by the Board at the close of the year.

CRIMINAL MATTERS

Scottsboro Case.—The Supreme Court decided three important criminal cases during the year. In Norris *v.* Alabama, 294 U.S. 587, it set aside for a second time convictions in the notorious Scottsboro cases. The defendants were Negroes, and the records showed that Negroes had been systematically excluded from grand juries and trial juries in Alabama for many years. The court held that this was a violation of the Fourteenth Amendment, and directed the reversal of the convictions.

Mooney Case.—In Mooney *v.* Holohan, 294 U.S. 103, the Supreme Court refused to grant a writ of habeas corpus to Thomas J. Mooney, imprisoned by the state of California on a charge of murder. Mooney contended that the evidence at his trial was perjured and that the state procedure offered no effective way in which this fact could be shown on his behalf. The Supreme Court, in denying Mooney's petition, held that he must first make application to the California courts. It intimated very plainly, however, that if the California courts did not grant relief he might properly apply again to the Supreme Court.

Herndon Case.—A final criminal case which attracted much attention was Herndon *v.* Georgia, 295, U.S. 441. The defendant there was convicted of inciting a rebellion, although it seemed unlikely that he had in fact done anything more serious than to make some labor speeches before a group of Negro workers. The majority of the Supreme Court, however, refused to hear his appeal on extremely technical grounds. Similar grounds were present in the Scottsboro cases but were brushed aside. It seemed difficult to see why they should have prevented investigation of the merits of the Herndon case.

Kidnapping Law Sustained.—Two recent Federal statutes intended to strengthen the administration of the criminal law were upheld by the courts during the year. In Shannon *v.* United States, 76 F.(2d) 490, the Circuit Court of Appeals for the Tenth Circuit upheld a conviction under the Federal Kidnapping Act, sometimes known as the Lindbergh Law. This statute, passed in 1932, makes it a Federal crime to transport a kidnapped person across state lines. The court held that this was a proper exercise of Federal power, thus establishing the authority of Federal officers to cope with the crime of kidnapping—a crime which presents more than usual difficulties to various state authorities.

Firearms Act.—The other Federal statute sustained was the Firearms Act, which seeks through an exercise of the taxing power to control the possession of and traffic in firearms of the type commonly used by criminals and gangsters. In United States *v.* Adams, 11 F. Supp. 216, this statute was held to be a valid exercise of Federal power. The court found a close analogy in the Harrison Narcotic Act, the validity of which has been sustained by the Supreme Court. Although there seems little analytical basis for a distinction, it seems clear that the courts are willing to allow Federal action in a broader field with respect to the suppression of crime than they are where general economic matters are concerned.

FEDERAL CIVIL SERVICE

By Harry B. Mitchell

President, United States Civil Service Commission

LEGISLATION

The first session of the 74th Congress, which adjourned August 26, 1935 marked a recession from the almost uniform action of the preceding Congress in exempting newly created or emergency agencies from the merit system established by the Civil Service Act and Rules. During the session numerous statutes were passed relating to personnel, and the following are agencies to which the civil service system was applied either by affirmative direction in the statute or by omission of any affirmative exemption:

- Social Security Act:
  - Social Security Board
  - Children's Bureau
  - Public Health Service
  - Bureau of the Census
  - Bureau of Internal Revenue
- National Labor Relations Board
- Public Utilities Act:
  - Securities and Exchange Commission
  - Federal Power Commission
- Motor Carrier Act
- Central Statistical Board
- Soil Conservation Service
- Railroad Retirement Board
- Guffey-Snyder Coal Act:
  - National Bituminous Coal Board
  - Consumers Coal Counsel
  - Bituminous Coal Labor Board
- Tobacco Inspection Act, Department of Agriculture
- Neutrality Act
- Railroad Bankruptcy Act under Interstate Commerce Commission

Agencies or employments which were exempted from the civil service system by the last session of Congress are Work Relief Projects under the Emergency Appropriation Relief Act, Petroleum Administration Board, Amendment to Agricultural Adjustment Administration Act, including Potato Control, and Federal Alcohol Administration.

Special note is made of the fact that Congress at this last session transferred the Central Statistical Board and the Soil Conservation Service from the exempt class to the competitive class.

Congress at this session restored the operation of various provisions of law relating to annual automatic promotions in several branches of the Postal Service, the Immigration Service, the

Customs Service, etc.; eliminated the five per cent remaining of the 15 per cent deduction from salaries prescribed in previous economy legislation, and eliminated the restriction as to promotion in other branches of the service where funds were available which could be used for promotion purposes. This authority was availed of by the Secretary of State in September when he released an important statement announcing approval by the President of a long list of promotions in the Foreign Service effective Oct. 1. It was pointed out in this statement that restoration of promotions marked the return to normal conditions.

Among other provisions of economy legislation that Congress rescinded at the last session were those requiring the impounding in the Treasury of funds saved through failure or delays in filling vacant positions, the requirement that approval must be secured of the President for filling any vacant position and then only if the position was regarded as absolutely essential to the efficient operation of the office concerned, and the granting of special annuity to those employees of the Government who had had 30 years' service and who were involuntarily dropped from the service for reasons other than misconduct.

GROWTH OF FEDERAL EXECUTIVE CIVIL SERVICE

The following table shows the growth of the executive civil service during the last few years. There was a falling off in the number of competitive positions between June 30, 1931, and June 30, 1934, and an increase during the past year.

	June 30, 1931	June 30, 1932	June 30, 1933	June 30, 1934	June 30, 1935
Competitive Classified Positions...	468,050	467,161	456,096	450,620	455,264
Unclassified and Exempt Positions.	148,787	111,070	109,336	210,474	264,176
Total....................	616,837	578,231	565,432	661,094	719,440

The annual report of the National Civil Service Reform League reviews Federal legislation affecting personnel and states that at no time since the enactment of the Federal Civil Service Law has the merit system faced such a critical test as now. The exemption from competition of employment in most of the Federal emergency or recovery agencies is deplored, and then reference is made to the fact that "of the 252,000 persons estimated to be employed by the governments of the 48 states only 90,000 are selected on a basis which insures at least minimum qualifications, and these are concentrated in nine states. Of the 355 cities in the United States of more than 25,000 population only 200 have civil service laws and in 35 of these the laws apply only to the police and fire forces."

The report gives as the bright side to the picture, the unprecedented interest being manifested by private citizens, taxpayers, and colleges and civic bodies in the character and quality of Government service. Among the organizations which have taken an active interest in supporting and insisting upon the merit system in Government employments are the National League of Women Voters, American Political Science Association, American Public Welfare Association, National Recreation Congress, American Association of Social Workers, American Association of Probation Officers, National Civil Service Reform League, and associations relating to public health, nursing, and dietetics professions.

THE MERIT SYSTEM IN THE STATES

Texas.—In April, 1935, the voters of El Paso, Tex., adopted an amendment to the city charter providing for the establishment of a Civil Service Commission to cover most of the municipal positions not now served by the police and fire civil service commission, which commission is continued but may later be merged with the new commission.

Tennessee.—Memphis, through the

creation of a Department of Personnel and Efficiency headed by a Director of Personnel, has taken a step forward in providing a better personnel procedure.

Illinois.—By an act of the Illinois Legislature a Civil Service Board is established to have jurisdiction over civil service matters in the Chicago sanitary district.

Colorado.—The voters of Denver, Col., disapproved a proposed charter amendment which provided for extension of the existing civil service. It is clear, however, that this action was motivated by the fact that the proposed amendment contained a provision which would have covered into the classified service persons the outgoing mayor had appointed to office.

Michigan.—The Michigan Legislature approved an act which permits any municipality of the State to establish a civil service commission to have jurisdiction over positions in the municipal fire department, subject to approval by a majority of the local electors. Flint by public vote of 11,985 to 5,609 approved an amendment to the city charter providing for a Civil Service Commission.

Washington.—The State of Washington adopted a model civil service law pertaining to fire fighters in those cities having a full-time paid fire department or a fire department having paid members.

Florida.—On June 1, 1935, the Governor of Florida signed a bill creating a civil service board in each city having a population of more than 130,000.

Alabama.—The Legislature of Alabama authorized Jefferson County and the cities of Birmingham and Bessemer in that county to have a civil service system.

California.—The California Legislature approved a statute that any city of the State may adopt by ordinance any type of personnel system. Each municipality was also authorized to contract with any other city or county, or the State Department, for the rendering of any personnel service. This will permit the civil service body of one of the larger cities to hold examinations and render other personnel services for a smaller municipality of the State which does not have sufficient funds to establish and administer properly its own central personnel agency.

Connecticut.—The City Council of Bridgeport has established a Civil Service Commission for that city.

TRAINING IN AND FOR PUBLIC SERVICE

Although the tide of the spoils system has risen high in recent years it has met a counter-tide of aroused and informed public opinion that promises to become dominant. The increasing demands on the Government for forms of service, including regulatory and advisory and informative functions, and the mounting costs which such services have translated into increased taxes, have forced an acute interest in the way in which Government business is carried on.

Less than a generation ago presidents of colleges urged their students against considering the Government service as a life work, because it was held to be deadening and without promise and as wholly destructive of any proper spirit of ambition. It is encouraging to note that today educational institutions have a different viewpoint. Many colleges and unversities are conducting courses in various phases of public administration, with Government service, national, state, county, or municipal, as the definite objective.

The University of Southern California for several years has offered a wide variety of courses open to Government officials with a view to their training for more effective service, and the American University in the District of Columbia is offering somewhat similar courses which are attracting large classes. The Foreign Service of the State Department, Bureau of Internal Revenue of the Treasury Department, Bureau of Prisons, Department of Justice, and the Department of Agriculture conduct training courses for their own employees. The courses of the last mentioned institution are open also to qualified persons who are not employees of that Department.

The International City Manager's Association, Chicago, through the Institute of Training in Municipal Administration, offers an extension course in municipal personnel administration. Other courses previously offered by this Institute have been The Organization and Functions of Municipal Management and Municipal Public Works Administration.

The National Association of Housing Officials, Chicago, offers a training course on housing management.

In October the Federal Department of Justice concluded a three-months' course in a newly established police training school at which 26 police officials representing 18 states studied crime and law administration with a view to improving methods of crime detection and law enforcement and especially for the purpose of bringing about closer cooperation between the Federal Government and local law enforcement agencies.

CIVIL SERVICE ASSEMBLY OF THE UNITED STATES AND CANADA

In May, 1906, there met in Washington, D. C., members and representatives of the United States Civil Service Commission and of four State Commissions and five Municipal Commissions. A permanent organization was adopted and a committee appointed to present to the next general meeting to be held in about two years a plan of organization and a constitution and an appropriate name. As a result of the conference there was established an association or assembly of Civil Service Commissions for the purpose of promoting acquaintance among administrators of civil service laws, exchanging information and views concerning the principles and methods of public employment, and increasing public knowledge of procedure tending to improve and perfect the merit system.

The Assembly met biennially during a considerable period and its membership steadily increased. In order better to serve its members in technical matters, the Assembly arranged in 1922 or 1923 for professional and technical services, especially in research as to examining tests, with the Bureau of Public Personnel Administration. This arrangement continued until the winter of 1934-5, when the Assembly assumed the liabilities and received the library and other assets of the Bureau of Public Personnel Administration upon the latter's dissolution.

Under a revised constitution adopted at the annual meeting in October, 1934, the Assembly established a permanent central headquarters office with a full-time paid director, who is actively engaged in fostering and developing the enlarged objectives of the Assembly, which are expressed as follows in the new constitution:

> To foster and develop interest in and a wider application of sound personnel administration in the public service based upon the principles of the merit system.
>
> To promote the study, development, and use of scientific methods of research and administration in the public personnel field and to encourage the collection and distribution of information as to the methods used.
>
> To determine, formulate, and declare the fundamental principles involved in such administration and to standardize its terminology and definition.
>
> To encourage the use of scientific methods of investigation and administration in the public employment field.
>
> To promote the coordination of personnel research activities in the various fields and furnish a forum for the interchange of thought and practical information relating to personnel problems.

THE COMMISSION OF INQUIRY ON PUBLIC SERVICE PERSONNEL

Government—national, state, and local—has become so much a part of the everyday life of the people that the efficiency with which governmental functions are performed is of acute interest to the taxpayer. It is estimated that there are 175,000 independent units of government in the United States employing 3,250,000 public servants. To study the problem of governmental manpower the Social Science Research Council appointed a Commission of Inquiry on Public Service Personnel which released its report in the early part of 1935. The members of the Commission were L. D. Coffman, Chairman, President of the University of Minnesota; Louis Brownlow, Director Public Administration Clearing House, Chicago; Ralph Budd, President, Chicago, Burlington and Quincy Railroad; Arthur L. Day, Vice President, Corning Glass Works, and Charles E. Merriam of the University of Chicago, with Luther Gulick as Director of Research and Secretary to the Commission.

The report of this Commission is an important document in literature advocating better government, and it will constitute the source book of accurate information and sound recommendations for advance movements to improve governmental methods and procedure and thereby reduce taxes. Among the main recommendations of the Commission, are:

1. Establish a career service system.
2. Develop in each of the larger governmental units an agency for personnel administration to render constructive personnel service of broader scope than recruiting solely for original appointment.
3. Reduce materially the classes of positions which are now filled without regard to the merit system.
4. Provide adequate and comparable compensation for all classes of positions.
5. Develop a careful probationary system subsequent to entrance on duty, and establish a system of promotion as fundamental to the maintenance of a career service.
6. Arrange for cooperation between personnel agencies, Federal, state and local, and for cooperation with educational institutions.
7. Provide for security of tenure during good behavior and for adequate retirement system.
8. Repeal statutes which interfere with the establishment and maintenance of the merit system and of a career system.

CHRONOLOGY OF THE NATIONAL GOVERNMENT

(From *The New York Times*, January 1, 1936)

JANUARY

Jan. 3—The Seventy-fourth Congress assembles, and J. W. Byrns of Tennessee is elected Speaker of the House. The Senate: Democrats, 69; Republicans, 25; Independents, 2. The House: Democrats, 322; Republicans, 102; Independents, 10.

Jan. 7—The annual budget presented shows for the fiscal year 1935-36 estimated expenditures at $8,520,000,000 with $3,938,000,000 for normal purposes and the balance for relief and recovery, and an estimated deficit of $4,528,000,000, with the prospect of raising the national debt to $34,239,000,000—the peak in the history of the Republic. Senator Huey Long, who in his coercive dominance of the leglislative, judicial and executive departments of Louisiana has aroused a divided universal opinion as to whether he is a joke or a menace, a patriot or a political demagogue, makes his usual attack on the national administration. Section 9c of the National Industrial Recovery Act (the oil-control clause) is declared unconstitutional.

Jan. 14—Chain store tax on filling stations is upheld by the Supreme Court.

Jan. 24—The $4,880,000,000 Relief Bill is passed by the House.

Jan. 29—Ratification of United States membership in the World Court is defeated in the Senate by a vote of 52 yeas to 36 nays.

FEBRUARY

Feb. 18—The government's gold-clause cases are upheld by the Supreme Court.

Feb. 21—The Senate defeats the President's Relief Bill amendment calling for a blanket appropriation which had passed the House on Jan. 24, and on Feb. 28 votes an inquiry for the NRA.

Feb. 22—Federal court in Alabama declares that the United States has no constitutional right to compete with private business.

Feb. 27—Delaware Federal Court voids Section 7a of the NIRA, when applied to companies not in interstate commerce. Government's regulation of wages in bituminous coal mining is voided by Kentucky Federal Court.

MARCH

March 8—The Army Appropriation Bill is passed by the Senate; March 29 by the House.

March 19—Senator Nye's munitions committee presents program to "take profits out of the manufacture of war materials."

March 22—The Patman Bonus Bill is passed by the House. It is passed by the Senate May 7. On May 23 the Senate sustains the President's veto.

APRIL

April 1—An inquiry into the administration of the Virgin Islands is ordered by the Senate. In ordering a retrial in the Scottsboro case, Chief Justice Hughes, on behalf of the full Supreme Court, makes a signal utterance: "When a Federal right has been specially set up and claimed in a State court, it is our province to inquire not merely whether it was denied in express terms but also whether it was denied in substance and fact."

April 9—The House passes the McSwain War Profits Bill (205 to 183) and sends it to the Senate, and, on April 19, the Social Security Bill, reported in the House on April 3; the Banking Bill on May 9, which is reported to the Senate July 2, and passes there on July 26.

MAY

May 6—The Railway pension law is declared unconstitutional.

May 14—The Senate rejects Huey Long's demand for an inquiry into the administration of Postmaster General Farley, and votes a ten-month extension for the NRA.

May 27—The entire National Industrial Recovery Act, characterized by the President, June 16, 1933, as a supreme effort for permanent stabilization and progress and the preservation of American standards, is declared unconstitutional; so is the Frazier-Lemke Act.

JUNE

June 11—The Senate passes the Utility Bill, which, in revised form, is passed by the House on July 2.

June 19—The Senate passes the Security Bill and the House the Wagner Labor Bill.

JULY

July 15-16—Local Federal courts of appeal declare the AAA to be unconstitutional.

July 24—A Virginia Federal court discriminates in favor of the A. F. L. union for the Virginian R. R.

July 26—The Omnibus Banking Bill, which sets up an open-market committee to deal in government securities, is passed by the Senate and sent to the House, passed there on Aug. 23, and is signed by the President the same day.

AUGUST

Aug. 7—Senate passes revised Copyright Bill, by which foreign authors, for protection, must have their works printed in the United States.

Aug. 8—First divorce suits under liberalized law are filed in the District of Columbia.

Aug. 22—The House carries out social-security program with an appropriation of $76,000,000, $37,312,500 of which is for old-age pensions.

Aug. 23—The Congress passes the Guffey Coal Bill; Aug. 24, the Liquor Control Bill and adopts the neutrality resolution, and on Aug. 26, at midnight, adjourns, having passed a budget of delayed bills at the eleventh hour, but not the Deficiency Appropriation Bill—blocked by Senator Long.

Aug. 26—AAA announced that rental and benefit payments during the fiscal year ended June 30 totaled $563,438,812 and that all expenditures amounted to $807,686,134 from available funds of $960,334,-

220. President Roosevelt signed the Public Utilities Act of 1935, providing for the regulation of holding companies and power concerns.

Aug. 27—The Alabama Power Company filed with the U. S. Supreme Court, asking it to upset the ruling of the Fifth Circuit Court of Appeals which ruled for the government in the suit of stockholders of the company against the TVA. The government filed with the court a brief, seeking a reversal of the lower court's decision in the Hoosac Mills case that processing and floor stock taxes were illegal (more than a thousand suits involving such taxes were then pending in the lower courts). President Roosevelt signed the Gold Clause Act, providing for definite protection for the government, after the elapse of six months, from damage suits arising from devaluation of the dollar.

Aug. 29—The SEC granted a three months' extension, until March 31, 1936, for permanent registration on Stock Exchanges of the bonds of foreign governments and their political subdivisions. President Roosevelt signed the new Frazier-Lemke bill providing for a limited three-year moratorium on farm mortgages.

Aug. 30—President Roosevelt signed the Revenue Act of 1935 designed to add about $250,000,000 annually to Federal revenue, principally by means of greater imposts on large incomes and estates. President Roosevelt also signed the act establishing an Alcohol Control Authority within the Treasury Department to displace the old FACA, which had lost official standing with dissolution of the NRA from which it derived its authority.

SEPTEMBER

Sept. 2—The Treasury offered to holders of about $1,250,000,000 of 4½ per cent Liberty bonds, last of the war-time issues outstanding, the opportunity to exchange them either for a new Treasury bond paying 2¾ per cent interest, maturing in twelve years, or for Treasury notes of three and one-half years maturity, paying 1½ per cent interest.

Sept. 3—The Treasury floated in a single day a $500,000,000 issue of 1½ per cent three-and-one-half-year notes, which were oversubscribed two and one-half times.

Sept. 4—Officials announced that silver purchased by the Treasury since the adoption of the new silver policy exceeded 500,000,000 ounces and raised American silver stocks to more than 1,150,000,000 ounces having a monetary value of $1,495,000,000.

Sept. 5—President Roosevelt vetoed a bill to amend the Grazing Act because of provisions which Secretary Ickes reported would nullify the original act, result in capture of most of the public domain by the States and frustrate conservation plans.

Sept. 8—Internal Revenue Commissioner Helvering announced that $3,299,435,572 of Federal internal revenue had been collected in the fiscal year 1935, the heaviest in fourteen years.

Sept. 9—A long step toward building the American Navy to London treaty strength was taken when the Navy Department authorized construction of 23 fighting ships, including an aircraft carrier, a 10,000-ton cruiser, 15 destroyers and 6 submarines.

Sept. 10—Suggested revisions of the Federal Reserve Board's regulations in order to carry out the new provisions of the Banking Act of 1935, drafted by the board, were sent to the twelve Reserve Banks for criticism.

Sept. 11—The constitutionality of the deposit insurance phase of the National Banking Act of 1935 was challenged in a suit in the Federal court in New York asking that the Manufacturers Trust Company be enjoined from paying assessments that would be due to the FDIC.

Sept. 12—The government asked the U. S. Supreme Court to overrule decision by the Sixth Circuit Court of Appeals which held that the PWA could not condemn land for housing and slum-clearance projects. The

State Department notified the German Embassy that Germany would not enjoy generalization of tariff concessions made in the course of reciprocal trade negotiations completed or under way with other countries.

Sept. 13—A reciprocal trade agreement, based on most-favored-nation treatment, was signed by the United States and Colombia.

Sept. 18—President Roosevelt announced his decision to nominate Marriner S. Eccles, Governor of the Federal Reserve Board, to be chairman of the reorganized board to be known as the Board of Governors of the Federal Reserve System.

Sept. 20—Joseph P. Kennedy resigned as chairman of the SEC.

Sept. 22—General MacArthur, in a farewell report as Chief of Staff, outlined a plan to transform the army within five years into a model fighting force for speed and efficiency, envisioning every rifleman as virtually a machine gunner.

Sept. 23—James M. Landis, one of the group of men who wrote the Securities Act of 1933 and the Securities Exchange Act of 1934, was elected chairman of the Securities and Exchange Commission.

Sept. 26—The Treasury announced that it would redeem $8,424,000,000 of its outstanding gold clause bonds and notes at par and accrued interest at any time up to Jan. 1, thereby opening the way for retirement of the last Federal securities carrying the gold payment promise.

Sept. 27—President Roosevelt, in a newspaper conference aboard his train en route to California, pledged himself to maintain the proportionate naval strength of the United States in relation to world armaments, declaring the United States would maintain the 5—5—3 treaty ratio, building if other nations did so.

Sept. 29—President Roosevelt, in a statement on the summation of the 1936 budget, assured the nation that no new taxes were needed.

Sept. 30—The Treasury showed the largest deficit in peace-time history for the first quarter ending Sept. 30, the excess of expenditures over receipts amounting to $832,021,766.

OCTOBER

Oct. 3—Potato growers advance on Washington and assail AAA delay in the enforcement of the potato control provision of the amended AAA Act; Senator Bailey of North Carolina and Representative Warren, author of the Potato Bill, demanded that Secretary Wallace take action. President Roosevelt appointed Major Gen. Malin D. Craig to be Chief of Staff.

Oct. 8—Secretary of Labor Perkins is authorized to fix wages at prevailing rates by Virginia Federal Court of Appeal. The SEC launched its administration of the Public Utilities Act of 1935 by laying down requirements which holding companies and subsidiaries should meet if they elected to file preliminary registration or to seek exemption. Plans for pushing the American Legion's Bonus Payment Bill through Congress ahead of the Patman bonus-inflation measure were tentatively laid at a conference between National Commander Ray Murphy and Legion representatives in Washington.

Oct. 10—The Crop Reporting Board estimated that all 1935 crops would top those of 1934; forecast a wheat yield of 598,935,000 bushels and a corn crop of 2,213,319,000 bushels.

Oct. 14—The U. S. Supreme Court consented to review the Hoosac Mills case, involving the validity of the AAA and also the Alabama Power Company case, involving the constitutionality of the TVA. Refused again to interfere in the case of Tom Mooney, California prisoner.

Oct. 15—Secretary Morgenthau, returning from Europe, declared that the flow of gold to the United States meant that Europeans thought the United States the best place to invest.

Oct. 20—Federal regulation of the live poultry industry in New York City and New Jersey was ordered by Secretary Wallace, effective Nov. 25, under authority of the recent amendment of the Packers and Stockyards Act.

Oct. 21—The U. S. Supreme Court gave the government until Nov. 11 to show cause why Georgia should not proceed with her legal attack on the constitutionality of the Bankhead Cotton Control Act. The Federal District Court at Peoria, Ill., declared the amended Frazier-Lemke Farm Mortgage Act unconstitutional.

Oct. 22—AAA cut the cotton ginning tax to 5.45 cents per pound of lint cotton, instead of 6 cents, effective Oct. 21.

Oct. 25—President Roosevelt declared that the AAA was permanent; that the administration intended to "pass from the purely emergency phases" of agricultural policy embraced in the AAA Act to "a long-time more permanent plan" based on the AAA.

Oct. 30—AAA officials announced that new loans of 45 cents a bushel would be made by the Commodity Credit Corporation on the 1935-36 corn supply.

NOVEMBER

Nov. 4—Secretary Wallace removed the restrictions on the production of hogs and permitted a proportional increase in the acreage to be planted in corn for the next two years, planning to relieve "acute shortages."

Nov. 6—Texas Court of Criminal Appeals rules that judiciary cannot abridge the constitutional right of a free press, thereby absolving six Houston reporters of contempt.

Nov. 7—Federal District Court in Maryland declares Holding Company Act to be unconstitutional in a utilities case characterized as collusive by government prosecutors. Judge William C. Coleman held the act invalid on five grounds, among them alleged violation of the Interstate Commerce Law.

Nov. 9—Forty-one naval planes arrived at French Frigate Shoals in a non-stop flight of 759 miles from Honolulu in 6 hours and 10 minutes—the first step in ten days of aircraft manoeuvres in the Pacific.

Nov. 10—The AAA showed a deficit of $44,459,580 in July and August, the first two months of the fiscal year. With the number of court attacks on the legality of processing taxes mounting daily, the farm administration blamed temporary injunction proceedings for the lag in revenues. Federal Judge Paul, in Virginia, in a case in which Senator Byrd, critic of many New Deal measures, attacked the law, held the amended Frazier-Lemke Farm Mortgage Act unconstitutional.

Nov. 11—Completion of the Canadian reciprocal trade agreement was announced simultaneously by President Roosevelt and Premier King. The President hailed it as another tie of friendship between two friendly neighbors. The New Deal was heartened when the Supreme Court refused to pass immediately on cases involving the validity of the amended AAA, the Guffey Coal Act; the government also won a point when the court agreed to allow the Department of Justice to plead in the test of the Bankhead Cotton Control Act, brought by Lee Moor, a Texas cotton shipper.

Nov. 13—Government lawyers filed a brief arguing the validity of the Home Owners Loan Act of 1933 and asked the court for a liberal interpretation of the hitherto undefined "welfare clause" of the Federal Constitution. President Roosevelt urged a reduction in interest rates charged on real estate loans, as essential to economic recovery. In the Scottsboro case Alabama observes the Supreme Court's ruling and places a Negro on the grand jury.

Nov. 15—The Canadian reciprocal trade pact was signed by Secretary Hull and Premier King in the presence of President Roosevelt.

Nov. 17—An official survey disclosed that the AAA had expended $204,156,727 to date in buying farm surpluses.

Nov. 18—The U. S. Supreme Court granted permission to the State of Georgia to file an original suit, pressed by Governor Talmadge, attacking the taxes imposed by the Bankhead Cotton Control Act.

Nov. 19—President Roosevelt, in a message to the National Foreign Trade Convention, declared that world trade must be liberalized and freed from ''discriminatory'' practices. President Roosevelt designated Norman H. Davis, as chairman, Under-Secretary of State Phillips, and Admiral Standley, Chief of Naval Operations, as the United States delegates to the London Naval Limitation Conference to meet Dec. 6.

Nov. 20—The United Gas Improvement Company, with assets exceeding $850,000,000, appealed to the Federal court at Philadelphia to declare the Public Utilities Act of 1935 unconstitutional and restrain the SEC and other government agencies from enforcing its provisions, as they related to the UGI, after Dec. 1.

Nov. 21—The Federal Circuit Court at Baltimore granted an appeal from Judge Coleman's decision which held the Public Utilities Act of 1935 unconstitutional.

Nov. 22—Governor Eccles of the Federal Reserve Board gave notice that Washington regarded recent stock market activities as relatively safe and helpful and, therefore, did not intend to put on the ''boom'' brakes in the near future. President Roosevelt decided to ask Congress for funds to add 4,000 men to the navy's personnel.

Nov. 25—The Federal Court of Appeals at Chicago reversed the order issued by the Grain Futures Administration headed by Secretary Wallace, which had suspended Arthur W. Cutten from trading on the country's grain Exchange. Pennsylvania Supreme Court holds the State's Graduated Income Tax Law to be unconstitutional. The U. S. Supreme Court temporarily enjoined the government from collecting processing taxes upon eight Louisiana rice millers pending decision on whether the courts could legally bar such collections under the amended AAA act. The Consolidated Gas Company and four subsidiaries, including the New York Edison Company, brought suit in New York to test the constitutionality of the Public Securities Act of 1935; the SEC announced that the dollar volume sales of stocks and bonds in October on the nation's securities Exchanges, aggregating $2,214,379,595, was an increase of 31.9 per cent over September and 161.2 per cent over October, 1934.

Nov. 26—The SEC filed a bill of complaint in the Federal court at New York against the Electric Bond and Share Company and five affiliated holding companies in an effort to reduce the number of injunctions which utility companies were seeking against the Public Utilities Act of 1935. President Roosevelt, after he and his aides at Warm Springs had completed their work on the budget, pruned $400,000,000 from the appropriation requests of the regular government departments for the fiscal year 1937. Oklahoma Supreme Court declares race-segregation ordinance of Oklahoma City to be in violation of the XII and XIV Amendments of the U. S. Constitution.

Nov. 27—Secretary Morgenthau, returning to Washington from Warm Springs, asserted that the administration was opposed to immediate cash payment of the soldiers' bonus.

Nov. 29—Senator McNary, Republican floor leader in the Senate, predicted the enactment of a law for immediate payment of the bonus by the coming Congress, over Presidential veto.

Nov. 30—George N. Peek, long an AAA storm center, resigned as president of the Export-Import Bank and Foreign Trade Adviser to the President, quitting the administration on account of the Canadian trade agreement.

DECEMBER

Dec. 1—The deadline for compliance with the Public Utilities Act of 1935 was reached with the major holding company groups maintaining virtually a solid front in their fight against the act.

Dec. 3—The Treasury decided to require every taxpayer to file two copies of his Federal income tax return next March, the additional copy to be made available to State and local tax collectors.

Dec. 7—The ruling of the Superior Court of Georgia that the Anti-Sedition Law of 1866 is unconstitutional frees a Negro Communist. George N. Peek denounced the Canadian trade agreement as being violative of President Roosevelt's campaign pledge not to lower agricultural tariffs and as a general tariff reduction unauthorized by Congress.

Dec. 8—President Roosevelt appointed Edward Dana Durand to fill the Republican vacancy on the Tariff Commission.

Dec. 9—The U. S. Supreme Court rejected the plea of Bruno Richard Hauptmann for a review of the trial as a result of which he had been sentenced to die for kidnapping and murder of Colonel Lindbergh's baby. The United States, at the outset of the London conference, asked for a 20 per cent reduction in fleets from naval treaty levels, Japan insisted upon fleet parity with the United States.

Dec. 10—The market in silver in London crashed when the United States Treasury, which for months had been "pegging" the world price, was reported to have withdrawn its support.

Dec. 12—Representative Hoepper of California and his son, Charles, were convicted by a District of Columbia Supreme Court jury on charges of conspiracy to sell a West Point appointment for $1,000.

Dec. 13—Attorney General Cummings filed a brief in the U. S. Supreme Court in the Alabama Power Company case in which he denied that the TVA was a government yardstick to which all privately owned hydro-electric utilities must by mandate conform; he contended that the only issue was whether the government could sell surplus power. President Roosevelt revealed that the administration was considering plans to raise the strength of the naval reserve to about 150,000 men when funds were available to establish a pay scale as an inducement.

Dec. 15—Supreme Court decisions in AAA cases announced for second week in January, 1936. A decision on the constitutionality of the Guffey Coal Control Act is also expected.

Dec. 16—The government filed a lien against the Associated Gas and Electric Company for $48,551,845, representing the government's claim for corporation income taxes for the years 1929 to 1933, inclusive, and for excess profits taxes for 1933.

Dec. 17—The government filed additional liens against the Associated Gas and Electric Company and one of its affiliates for $4,907,245 covering back income taxes. Ray Murphy, commander of the American Legion, personally delivered to President Roosevelt that organization's request for full and immediate payment of the bonus. J. Edward Jones of New York filed a petition seeking to upset the Securities Act of 1935, attacking its constitutionality. The War Department awarded a contract for 100 attack planes to cost $2,560,074.

Dec. 18—The Board of Governors of the Federal Reserve System and the Federal Reserve Market Committee, in a joint statement, opposed immediate action to reduce the excess reserves of member banks, adding that the situation would be carefully watched and appropriate action taken if credit expansion developed which threatened public interest. The Department of Agriculture reported for 1935 a combined cash farm income of $8,110,000,000, or 12 per cent more than for 1934. The United States and Honduras signed a reciprocal trade agreement.

Dec. 19—A North Dakota Federal jury acquits former Governor William Langer and two ex-State officials of charge of conspiracy to obstruct Federal relief legislation.

Dec. 20—The United States and the Netherlands signed a reciprocal trade agreement. The London conference after two hours hearing devoted to Japanese criticism of the

British proposal for limitation by voluntary declaration of naval building programs, adjourned, without achieving any results, until Jan. 6.

Dec. 21—Ambassador Saito informed the State Department that Japanese cotton textile manufacturers had agreed voluntarily to restrict their exports to the United States. The War Deparment ordered 103 swift bombing planes to cost $9,046,000 for the U. S. Army Air Corps.

Dec. 23—The U. S. Supreme Court agreed to pleas by the government and coal producers to pass upon the constitutionality of the Guffey Coal Act, even before circuit courts might hand down their decisions. A case involving a 104-year-old debt law is lodged in the New York Supreme Court—a statute of Sept. 1, 1935, having made imprisonment for debt seemingly impossible.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia, Pa.

American Bar Assn., 1140 N. Dearborn Street, Chicago, Ill.

American Political Science Assn., Angell Hall, University of Michigan, Ann Arbor, Mich.

Commercial Law League of America, 111 W. Monroe St., Chicago, Ill.

Honest Ballot Assn., Inc., 70 Pine Street, New York City.

League for Political Education, 113 West 43rd St., New York City.

National Assn. of Legal Aid Organizations, School of Law, Duke University, Durham, N. C.

National Civil Service Reform League, 519 Fifth Ave., New York City.

National Institute of Public Administration, 302 E. 35th Street, New York City.

DIVISION IV

STATE GOVERNMENT

STATE ADMINISTRATION AND LEGISLATION

By Rodney L. Mott

Director, School of Social Sciences, Colgate University

ADMINISTRATIVE REORGANIZATION

Rhode Island.—The Washington and Rhode Island legislatures enacted in 1935 a general reorganization of their administrative structures. The Rhode Island reorganization consolidated more than 100 boards and departments into 11 new departments. The heads of four of these (governor, secretary of state, attorney general, and treasurer) are to be elected by popular vote. The remaining departments (public welfare, public works, taxation, education, labor, agriculture, and public health) will be supervised by directors to be appointed by the governor.

Washington.—The Washington statute also provides for 11 departments: public service, public welfare, finance, health, conservation, labor and industries, agriculture, licenses, fisheries, game, and highways. Each department will be under a director to be appointed by the governor with the consent of the Senate. No provision is made for either advisory or supervisory boards. The department of finance seems destined to become the keystone of Washington's administrative structure. It will supervise the banks, the savings and loan associations, and the public institutions of the state, besides preparing the budget and doing the purchasing for the other state departments.

Public Welfare Departments.—The tremendous increase in the work of unemployment relief and public welfare has forced the organization of these departments to the fore. Public welfare departments were reorganized or created in 20 states during 1935. In some cases, as in Connecticut, the statutes consolidated the functions of several departments in a single public welfare organization. The trend seems to be toward increasing the powers of the public welfare board, making the commissioners of public welfare responsible to it. New departments of public welfare have been established in West Virginia, Rhode Island, and Oregon.

Fish and Game Conservation.—A somewhat similar tendency to make use of an advisory or supervisory board may be observed in the reorganization which has taken place in a number of departments of conservation. Alabama, Florida, and Maryland have given an advisory board power to make regulations concerning bag limits in open season. Fish and game commissions were reorganized in four other states, and new game departments were established in Rhode Island, Ohio, Vermont, and Tennessee.

Nebraska.—The Nebraska voters, on Nov. 6, 1934, approved a constitutional amendment providing for an unicameral legislature to convene in 1937. This amendment provided that the new single house legislature should not have less than 30 members or more than 50 instead of the present legislature consisting of a senate of

30 and a house of 100. By an act passed at its 1935 session the old Nebraska legislature made final arrangements for its own demise. This act provides for a single body of 43 members, each of whom will represent a constitutuency of 31,471 persons, and will receive an annual salary of $872.09. This number is said to be large enough to represent equitably each of the various interests of the state and also to represent the Eastern and Western sections on a fair basis.

Fiscal Provisions.—Joint committees or interim commissions to study the problems of state government and to make recommendations for economy and efficiency in its operation were established in several states, including Connecticut, Oregon, Texas, and Utah. In addition the statutes authorizing the tax commissions of North Dakota and Minnesota to make studies of the fiscal situation in those states were broad enough to comprehend the reorganization of state administration as well. Attention may be called to a striking departure in methods of budget presentation which was used in California during the past year. The budget document in the Sunkist state took on a more human aspect through the inclusion of descriptive material telling of the services performed by the various departments and of pictorial material showing something of their work.

PLANNING AGENCIES

State Boards.—The movement for the establishment of state planning boards which was well under way in 1934 acquired additional momentum during 1935. Statutes for this purpose were enacted by 29 state legislatures, and in one state the governor established a board without legislative action. There are now state planning boards in all but two states. Thirty-two of these are on a statutory basis. This development of state planning is an encouraging harvest from the seeds of suggestion and encouragement given by the National Resources Board. It opens an opportunity to the states to apply sound business sense to the use of their funds for public improvements and for the proper utilization of their natural and developed resources.

County Boards.—Supplementing the work of the state planners, there are now some 350 county planning boards as compared with 90 which were in existence in May, 1934. In some states these have been specifically authorized by statutes. To supplement the work of these boards, a few states, including Tennessee and Michigan, have passed acts similar to the ones already in existence in California and Wisconsin authorizing zoning on a county-wide scale.

American Society of Planning Officials.—Two agencies exist for the coordination of the work of these numerous planning organizations. The National Resources Board, a Federal agency in Washington, D. C., has been active in this connection for the past three years. During 1935 the members of the planning agencies formed the American Society of Planning Officials to act as a clearing house for their own problems. This organization has established a secretariat in proximity to the numerous other governmental organizations located in Chicago.

Conservation of Natural Resources.—One other important statute marks a distinct advance in the long struggle toward conservation of natural resources. The wastage of natural gas from Texas oil wells will be limited and eventually eliminated under an act passed by the last legislature.

CIVIL SERVICE

Commission Report.—The work of the Commission of Inquiry on Public Service Personnel is of outstanding significance. Organized in 1933 by the Social Science Research Council, the Commission held hearings in 11 cities, asked qualified experts to prepare monographs on important aspects of the problem, and engaged a research staff to lay before it other relevant data. The report of the Commission, which was rendered in January, 1935, emphasizes the need for trained employees in the government service, and particularly recommends the establishment of a career service system to include all non-political top positions, as well as the more routine ones, in the state, local, and Federal services. In line with this general recommendation the Commission urged recruitment on a competitive basis, advancement on merit, an increase in the salaries of the top position, and adequate retirement provisions. It also recommended the establishment of cooperative relations between the Federal personnel administration and the state and local administrations through the joint use of eligible lists, the joint preparation and conduct of examinations, and the development of technical studies.

Research Activities.—Subsequent to the completion of the Commission's work, the Social Science Research Council established a committee on public administration with the purpose "to get fixed points of guidance—to add to the store of principles of administration—so that, as government faces new problems and expands still further its activities, those who must make administrative decisions may profit by recent and current experience." This committee will seek to promote research in administration while the work of administration is going on rather than after it has been finished. Most of these research projects will be done cooperatively by private research agencies or by agencies of various university staffs. In other cases the committee plans to undertake the work itself. The Civil Service Assembly, an organization of the members of civil service commissions and their staffs, has established a secretariat in Chicago to act as a clearing house for these agencies and to undertake studies of mutual value to them.

Extension of Merit System.—A few states have passed acts extending the provisions of the merit system. In Nebraska, the Fish and Game Commission has been placed under civil service, and in Alabama, California, Tennessee, and Michigan acts have been passed to extend the merit principle to some city and municipal offices. The Florida act is interesting because the civil service commission of Jacksonville will consist of three members selected on an occupational basis without regard for party affiliation—one to represent labor, a second to represent the professions, and a third to represent the business class. The California act incorporates one of the recommendations of the Commission on Public Service Personnel in that it authorizes any city to make a contract with any other city or a state department for personnel service. Thus the smaller units of government whose funds do not justify an establishment of a complete examination service for themselves can secure the benefit of such a service by contracting with the state or larger cities for it.

ELECTIONS

A direct primary law has superseded the convention method of nomination of state officers in Kentucky. This new act, which was bitterly contested, was passed at a special session of the legislature. It provided for a supplementary run-off primary in case no candidate should receive a majority of the party votes in the initial primary. Officers were nominated under this new law in 1935, and in spite of widespread predictions that it would cause the defeat of the Democratic party by fostering a split in its ranks, the Republicans were not successful in the final election.

LEGISLATIVE SESSIONS

Legislatures met in every state during 1935 was one exception—Virginia. Regular legislative sessions were held in 44 states. In 18 states, including three not holding regular sessions, one or more special sessions were held. Altogether 28 special sessions were convened by the middle of December. Many states had more than one session, Louisiana had four. This number of extra sessions is considerably less than the number held last year when 38 sessions were held in 28 states; and it is only slightly more than half the number held in 1933 when 43 sessions were held in 35 states.

These legislative sessions lasted for varying periods of time. Some of the special sessions, like the New Jersey session which adjourned the same day it convened, were very short. The shortest regular sessions were held in Oregon and Wyoming where the constitution limits legislative labors to 40 days. The longest session was the one in Wisconsin which deliberated for 262 days. This seems to have set a legislative record. The archives of even the Badger State contain no record of a longer session than eight months. Most of the legislatures were able to complete their work in a little over 90 days.

In spite of this legislative activity, there is increasing evidence that it is necessary for our law makers to confer on other agencies the duty of promulgating various types of regulation. Many of the 13 state industrial recovery acts, passed to supplement the NIRA (National Industrial Administration) conferred large code-making powers on administrative agencies. Most of them, of course, have ceased to be effective since the Federal decision in the Schlecter Poultry Case. Eight states have conferred on their Fish and Game commissioners additional power to make regulation with respect to open seasons, bag limits, and other matters which were formerly subject to detailed prescription in the statutes.

UNIFORM STATE LAWS

The movement for greater uniformity in state legislation continues to make reasonable progress. One or more of the acts prepared by the National Conference of Commissioners on Uniform State Laws were adopted in 1935 in 31 states. Indiana, with a former law school dean as governor, adopted the largest number of them—seven; Oregon adopted five. The Uniform Narcotic Act was the most favored uniform statute, being adopted in 17 states. Ten legislatures enacted the statute to secure extradition of witnesses from one state to another, and five approved the uniform act for the extradition of criminals.

At its annual meeting in July, the Commissioners of Uniform State Laws approved the drafts of four new acts: an airports act, an aeronautical regulatory act, an act regulating contracts for sale of real estate and an act providing for the transfer of indigents between states. The conference also established a committee on scope and progress which was authorized to study the functions of the Conference with a view to strengthening the work and position of the state legislatures.

The uniform traffic code which had been drafted by the National Conference on Street and Highway Safety likewise made headway in the 1935 legislatures. Five states adopted the uniform operator's and license act, making a total of 35 in which this is now in force. Six states adopted the uniform safety responsibility act, requiring those unable to meet the cost of an accident to furnish evidence of responsibility before being permitted to drive again.

MOTOR VEHICLES

Safety Laws.—The 1935 legislatures considered some 2,000 measures affecting directly or indirectly the automobile owner. Several hundred of these were passed. No state decided to follow Massachusetts in requiring compulsory accident insurance, but five states enacted the uniform safety responsibility law. Highway patrols have been established in four states and now exist in every state in the Union, except Georgia. In several of these states, the laws in respect to the highway patrol have been strengthened. The increasing toll from automobile accidents led a number of states to enact legislation to promote safety on the highways. Fifteen new states were added to the roster of those requiring safety glass in all new automobiles marketed in them, making a total of 23 which now require this safety feature. Five new states now require periodic inspection of motor vehicles and five additional states also passed driver's license laws. Operator's licenses are now required in 33 states, although many of the laws permit licenses to be issued without an examination. Three new states have passed laws designed to prevent the practice of transporting caravans of cars across them for future sale. This brings the total of states which interdict this practice up to eight.

Gasoline Taxes and Registration Fees.—There seems to be no indication that the gas tax burden of the motorist will be reduced in the immediate future. Five states voted an increase in their gas tax of 1 cent per gallon, and under some of these laws the extra tax may be diverted to relieve unemployment or for other purposes. The gasoline tax is now 4 cents in most states, although in Florida it as as high as 8 cents. Registration fees, however, are distinctly on the down grade, 25 states having reduced them in the past few years—eight during 1935.

EDUCATION

The depression has increased the need for greater state support of local schools and this need has been reflected in the laws passed by a number of state legislatures This legislation frequently fixes a minimum standard for school support and where local resources are insufficient to maintain that standard they are supplemented by state appropriations. The state aid is often earmarked for teachers' salaries, and in some states it is contingent on an increase in the compensation given teachers. The responsibility for administering the increased state school funds is usually entrusted to the State Department of Education, a responsibility which carries with it opportunities for improving the scope and quality of the educational service. The state of Ohio will pay about half of the total cost of the public, elementary, and secondary schools under legislation passed during 1935. New Jersey and Michigan have also made provisions for large increases in amount of state aid. In other states, such as Minnesota, Montana, Utah, Indiana, and Texas the new amounts provided are naturally somewhat less in the aggregate, but even there it is evident there is a consistent demand for larger state support.

Two states have made important changes in the organizations of their state departments of education. Rhode Island has abolished both the state board and the commissioner of education and has substituted a director of education to hold office at the pleasure of the governor. Practically all the educational work of the state, including the schools for the blind, is under his jurisdiction. Utah adopted a very unique plan for selecting her state board of education. The new board will consist of nine members, one to be chosen from each of the seven judicial districts except the district including Salt Lake City which will have three members. All these members will be elected by conventions composed of the members of all local boards of education within their respective districts. The legislation also proposed a constitutional amendment to make the superintendent of public instruction appointive by the board of education instead of elected by popular vote as at present.

The trend toward a consolidation of small rural districts continues unabated. The Ohio act providing additional state funds for local schools gives the state director of education powers virtually to compel the consolidation of small and inefficient units. In Oregon, each county will have a school district board which will be given power to change or consolidate the local districts within the county. The legislature of Iowa passed an act to prohibit the establishment of any school districts smaller than four square miles.

STATE HOUSING LEGISLATION

The stimulus which the existing housing shortage in the United States has given to both Federal and state governmental activity resulted in the passing of legislation in 18 states on this subject during the past few years. Seven of these acts were passed during 1935. Many of these empower local governmental units to undertake housing developments, and in three states—Maryland, New Jersey, and North Carolina—state-wide housing authorities have been established. These housing authorities, state or local, are generally empowered to investigate housing conditions, issue bonds for housing projects, to acquire land by purchase or eminent domain, and to plan, construct, and operate housing projects.

This entry by state and local governments into the direct field of housing represents a second phase of the efforts to attack this problem. Fourteen states have established state boards to regulate limited dividend housing corporations, but it was found that relatively meager results could be secured in this way due to the unwillingness of private capital to enter this field. There accordingly has been a distinct tendency in the direction of state or municipal building and operating of housing units.

SPORTS

A revival of horse-racing and race-track betting should follow from the activity of the legislatures in the last few years. Twenty-four states now legalize and tax horse-racing with pari-mutual betting, including five states passing acts for this purpose during 1935. In a few cases the local unit of government has given the option of determining whether racing should be permitted within its borders. The taxes which are levied on race-track betting may be based upon the gross receipts of the race tracks, or upon a percentage, usually 10% of the money taken in, or on the commissions. West Virginia levies a tax on the winning tickets. Marathon dances continue to be held in disfavor. At least half a dozen states have passed laws during 1935 to prohibit these exhibitions.

ANTI-COMMUNIST LAWS

The list of states which require teachers in their schools to take oaths of allegiance to the state and Federal constitutions was increased by four new states during 1935. Some of these laws apply to private institutions of learning as well as public, and frequently they apply to colleges and universities as well as to grammar and high schools. A rider to the Federal Deficiency Appropriation Bill has been interpreted as establishing a similar provision in Washington, D. C.

Four states—Indiana, Delaware, Arkansas, and Tennessee—have passed acts excluding from the ballot any party which advocates the overthrow of the government by force or treason, and in California these organizations are prohibited from using the school buildings for their meetings. The New Jersey legislature penalized incitements to hatred, violence, or hostility, thus including Nazi organizations as well as those advocating communism in the sweep of its wrath.

JUDICIARY

More than half of the states now have judicial councils, Indiana being the most recent recruit to the ranks. An act passed in 1935 establishes a Judicial Council of nine members; a judge of the Supreme Court, a judge of the Appellate Court, two Circuit or Superior Court judges, the chairmen of the Senate and House Judiciary Committees, a member of the faculty of Indiana University Law School, and two members of the Indiana bar. The judicial members are to be selected by the courts, while the members from the bar and the law school are to be selected by the Governor. All except the legislative members are to serve for four years. The duties of the council are entirely advisory. It is charged with the duty of carrying on a continuous study of the state judicial system and of submitting suggestions to the judges for the improvement of judicial administration in the state. Its annual report is to be submitted to the governor, but there is no provision for reports or advice by the council directly to the legislature.

Two states, Oregon and Michigan, are added to the 16 other states which now provide for the integration of the state bar. The Michigan act confers on the Supreme Court the power to require bar integration by Supreme Court rule. This tendency to confer on the courts control over matters of judicial procedure continues to find favor with state legislatures. West Virginia has conferred this power on the Supreme Court of Appeals, and Ohio has cleared up some of the ambiguities in its statutes on this subject.

Four states have passed laws similar to the Federal statutes designed to curb the power of the courts to issue labor injunctions.

A great deal of publicity was given to the acts passed by four additional legislatures similar to the one enacted in New York in 1934 which was designed to prohibit suits for damages arising from the alienation of affection or breach of promise.

IV. STATE GOVERNMENT

NATIONAL AND INTERSTATE RELATIONS OF STATES

By Rodney L. Mott

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FEDERAL-STATE COOPERATION

During the year 1935 the Federal Government reached out its hands still further in its efforts to extend its services to the states on a cooperative basis. Following the trail blazed in former years the various bureaus of the Department of Agriculture continued the policy of making agreements with state officials for the furtherance of common programs. The highway officials of Oregon and the United States Bureau of Public Roads entered into an agreement for the improvement of interstate highways in that state. The United States Bureau of Agricultural Economics made an agreement with the state of Kentucky under which the state agricultural experimenting stations are to conduct various pieces of research of mutual interest. The Connecticut State Agricultural College is also working on a study of rural public trends with the cooperation of the Department of Agriculture.

With the fostering assistance of the National Resources Board, state planning boards have been estabished in 46 states. Statutes authorizing these boards have been passed in 32 commonwealths, the great majority of them during 1935. There has also been a great increase in the number of county planning-boards—more than 350 at the present time. Two regional agencies have been established to foster interstate planning of natural resources. One of these is in New England and the other is across the continent in the Pacific Northwest. The members of these regional, state, and local planning boards and their staffs have organized themselves into the American Society of Planning Officials. During July, more than 100 representatives of these agencies met at the administrative headquarters of the society in Chicago for the discussion of various administrative problems and the improvement of techniques for securing basic data as the first step toward sound planning.

The Federal Department of Justice through its Bureau of Investigation has continued its program of cooperation with state and municipal police departments through the furnishing of information, maintenance of a central fingerprint bureau, and rendering of technical and scientific assistance. During 1935, it has also taken an active part in the development of training schools for police officers and police chiefs. Representatives of the Federal bureau have acted as instructors in these schools, and one of the schools was conducted in Washington by the Bureau itself. The Federal Department of Justice sent two of its representatives to the Interstate Crime Conference held at Trenton, N. J.

Other agencies which have been developing extensive programs of cooperation with state officers are the Federal Housing Authority and the Public Works Administration. The Federal Employment Service now has cooperative arrangements with more than 40 states, 25 legislatures during 1935 having accepted the provisions of the statute establishing this agency. The National Parks Service has continued its efforts toward fish and game conservation by cooperating with various state agencies.

TAXATION

The problem of conflicts between the tax programs of the various states and between the states and the Federal government is one which has been under scrutiny for several years. Students of taxation have often pointed to the wasteful character of our tax machinery, the excessive burdens which it has imposed, and the administrative difficulties which have resulted from duplicating taxes. In 1933 an Interstate Assembly with representatives from the legislatures or governors of 30 states met in Washington to consider this problem. It was determined to establish an Interstate Commission to study tax conflicts and to make recommendations to a second meeting of the Assembly two years later. During the succeeding two years, the Commission, through its research staff, actively explored the ramifications of this thorny problem and outlined the possibilities for its solution.

In its report to the second Interstate Assembly which was held in February, 1935, the Interstate Commission on Conflicting Taxation pointed out that there was much more involved than merely allocating sources of revenue between the states and the Federal government. Revenues must be related to the functions provided, and any coordinated system of taxation must take into account local as well as state and Federal taxes and functions. Acting on the basis of this report, the Second Interstate Assembly established a Tax Revision Council to consist of seven official representatives of the Federal Government, seven of the state governments and seven city or county officials. The Federal Secretary of the Treasury was designated as permanent chairman of this agency.

The Second Interstate Assembly likewise approved a series of resolutions designed to reduce the evils of some of the most glaring conflicts. It urged that the Federal Government provide a credit on the Federal income tax for state income taxes paid by individuals. It also proposed a Federal sales tax to be shared by the states in lieu of the existing state sales taxes. The Federal Government was urged to retire from the gas tax and electric energy tax fields, leaving them to the states. In return it suggested that the states should leave further tobacco taxes and non-regulatory taxes on beer to the Federal Government.

The Tax Revision Council met in Washington during June and formulated its plan of work. It decided that its first task should be to decide which governmental function was to be carried on by each level of government. Accordingly, four committees were established: (1) On Federal and state planning; (2) On state and local planning; (3) On the allocation of functions between Federal, state, and local functions; (4) To collect data concerning laws, expenditures, and functions of the various units of government.

COUNCIL OF STATE GOVERNMENTS

The first meeting of the planning board of the Council of State Governments was held at Washington during January. This agency has been developed by the American Legislator's Association, a pioneer in the field of interstate cooperation, to furnish staff assistance to various organizations of state officials. During 1935, the National Association of Attorneys-general and the National Association of Secretaries of State designated the Council as a common secretariat to study their problems and act as a clearing house for information. In the meantime, eight states (New Jersey, Colorado, Nebraska, North Carolina, Florida, Pennsylvania, Maryland, and New Hampshire) established commissions on interstate cooperation by legislative action. In 15 other states, joint legislative committees were set up for this purpose. These commissions and committees are charged with the duty of assisting the Council of State Governments in its work of bringing the states closer together. Thirty-six representatives from 22 of these commissions or committees met in June to make further plans for cooperative action among the states. It was decided to establish five committees: (1) on crime prevention; (2) on economic security; (3) on labor and industry; (4) on state planning boards; (5) on interstate marketing. These committees are to study the problems of interstate cooperation within their fields and are to report at future meetings of the Council of State Governments.

INTERSTATE COMPACTS

Labor.—There has been wide-spread discussion concerning the use of compacts or agreements among the several states as a means of securing greater uniformity in state action. Nevertheless, the articles which have been written, the conferences which have been held, and committees which were appointed as a result of this interest seems to have advanced but little the cause of interstate cooperation on the more controversial points. Two years ago a labor compact was drafted and signed by a conference representing the various northeastern states. This compact was promptly ratified by the Massachusetts General Court, some of whose members had been prime movers in this development. During 1935 the New Hampshire legislature added its gesture toward greater uniformity in this baffling field by becoming the second state to ratify the agreement. The terms of this compact, however, do not go beyond the provisions of the existing New Hampshire or Massachusetts laws on the subjects covered, and for that reason the net effect of the compact in those states seems confined to preventing the adoption of lower standards in the future and to encouraging other states to participate in this effort to prevent disastrous interstate competition in reducing the protection given the workers. During the year, another conference on labor and industrial compacts, with representatives from 13 northeastern states met at Albany. This body recommended that compacts to provide for fair wage standards and for the 40-hour week be adopted.

Perhaps the most noteworthy development in the movement for interstate labor compacts was the conference on this subject which was held at Spring Lake, N. J., in June. Forty-six delegates from 16 states responded to the invitation of Governor Hoffman and attended a conference called to consider measures that were made necessary by the collapse of the NIRA. This conference represented a considerably larger area than any former state initiated meeting on this subject. The delegates came from as far west as Colorado and as far south as Florida. Several delegates from the Federal Government also participated in this meeting. The conference recommended the adoption by the states generally of the minimum wage compact and of the child labor compact, both of which had been drafted by the Interstate Conference on Industrial Compacts. The child labor compact would prohibit the employment of children under 16 years of age, and between 16 and 18 their employment would be limited to day work and work in occupations which are not classified as hazardous.

Fishing Rights.—Two bilateral interstate agreements with respect to fishing rights were drafted during 1935. The first relates to commercial fishing in the Columbia River, and the second relates to fishing by sportsmen in the Ohio River. This agreement between Indiana and Kentucky gives citizens of each state the right to use the banks of the Ohio River in the other state for non-commercial fishing operations.

Milk Marketing Control.—A beginning has also been made in the matter of interstate cooperation in the control of the marketing of milk. A group of eastern states has set up a council, the purpose of which is to collect and exchange information on this subject. Eventually it is expected that agreements will be drafted for the purpose of regulating it.

Water Diversion.—One of the earliest forms of interstate compact relates to diversion of water from interstate streams or the loci of boundary lines between the states in those streams. More recently, rivers flowing between states have been the subject of interstate concern because of the danger of their pollution. This problem is not merely a sanitary one, for a polluted stream loses much of its value for recreational and commercial uses as well. Citizens in the region of Cincinnati, under the leadership of the Chamber of Commerce of that city, have organized to protect the streams of the Ohio Valley. A campaign of education is being carried on and municipalities are being urged to construct the necessary sewage disposal plants to protect the rivers. A compact to curb the pollution of New York Harbor and Long Island Sound was drawn up in April and was submitted to the legislatures of the states concerned.

Oil.—The Federal Government has for some years taken a very keen interest in the use of interstate compacts as a means of regularizing the production of oil and of conserving this valuable resource. Two additional steps in the tortuous process of regulating this turbulent industry were taken during

1935. In February a conference of representatives from the oil producing states met at Dallas and signed a compact designed to promote the conservation of oil and gas. Under the compact the signatory states agreed to prevent the operation of wells with an inefficient gas-oil ration, to penalize the unavoidable escape or burning of gas, to prevent the drilling or spacing of wells so close together so as to cause waste in production, and to prevent the inefficient use of reservoir energy. The compact also bound the states to deny access to commerce of oil produced in violation of the conservation statutes. This compact was to become binding among the states ratifying it as soon as any three legislatures had passed acts confirming the ratification. Difficulties in securing ratification led to the convening of a second conference in September at which nine oil producing states were represented, six by delegates and three by observers. The delegates of this conference, which met at Oklahoma City orally agreed to support a compact providing for conservation of oil and gas, the elimination of waste, and the preventing of price fixing. More important, however, was the establishment of an Interstate Compact Commission to act as a continuing agency in the struggle to secure an agreement in this field.

CRIME

The increasing demand for the suppression of crime has called attention to the difficulties which are encountered by law enforcement officers on account of the division of authority between the various states and the Federal Government. The criminal is no respecter of state lines, and with the automobile, good roads, and scattering of industry, the difficulties of preventing his operations are tremendously increased. The Ashurst-Summers Act, passed by Congress in 1934, authorized the states to meet this problem by entering into agreement for cooperative assistance in the enforcement of criminal laws. With this *carte blanche* from Washington, 15 central states sent representatives to a parole conference in Chicago in December, 1934. A compact was drafted at this time to provide for cooperation in the supervision of those on parole and for the exchange of information between states on this subject. In line with the work of this conference, two states (Michigan and Indiana) enacted reciprocal legislation providing for the supervision of persons on parole or probation from any other states which accord like courtesy to similar persons from Michigan or Indiana.

Statutes have been passed in six other states, all of which are in the middle west or the far west, to promote the objects of the Ashurst-Summers Act. Unfortunately, these statutes themselves evidence a lack of uniformity. Some legislatures have simply authorized the drafting of agreements, reserving the right to approve or reject them at a subsequent session. In other states, reciprocal legislation has been passed which becomes effective when similar acts are pased by other legislative bodies. The Minnesota act, on the other hand, authorizes the Governor to enter into compacts in the name of the state but limits those compacts to reciprocal arrangements for the supervision of persons on parole or probation.

With this background of legislative interest and activity, it became clear that steps should be taken to insure greater uniformity in the action of the legislatures when giving effect to recommendations of conferences on interstate crime problems. This difficulty was one of the considerations which led the New Jersey Commission on Interstate Cooperation to call an Interstate Conference on Crime at Trenton in October, 1935. This conference endorsed the recommendations on parole supervision which had been agreed upon at the Chicago meeting 10 months earlier, but it went much further. Working hand in hand with the Council of State Governments, it established an Interstate Commission on Crime which was authorized to prepare statutes for reciprocal legislation and to draft interstate compacts to cope with the difficulties of law enforcement caused by state lines.

The Interstate Commission on Crime promptly enlisted the aid of 26 of the leading law schools in the preparation of model statutes and compacts. The general plan was to ask several schools to work on each important subject, the whole group of which included the following: the extradition of criminals; ''hot pursuit'' of fugitives from one state to another; removal of witnesses needed in a criminal trial from another state; enlarging the jurisdiction of the courts in order to avoid purely technical defenses of a boundary line nature; supervision of parolees who may migrate to another state; the creation of joint interstate detection and apprehension bureaus, and waivers of extradition. The enlistment of the technical assistance of legal specialists in such a large number of law schools, from Harvard to California and from Minnesota to Tulane, in itself represents a major achievement in cooperative endeavor. The model statutes which this commission finally approves will represent by far the most extensive attempt to bring order out of the chaotic conditions in important areas of the administration of criminal justice.

STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

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GOVERNMENTAL REORGANIZATION

New York.—Among the more interesting of the 64 proposals which were submitted to state-wide electorates during 1935, and for each of which space may allow only the briefest mention here, were a few that had to do with more or less basic governmental reorganization. Of those approved by the voters, perhaps the most notable is the amendment to the constitution of New York, which was proposed as a non-partisan measure and endorsed by Republican, Democrat and Socialist leaders, though opposed by political machines of both the major parties, and designed to provide for county home rule and in general to open the way to reform and modernization of county governments. The amendment distinguishes in principle between the upstate areas and New York City, the Municipal Assembly of the latter being given power to abolish any county office within the city limits, except those of Judge, County Clerk, and District Attorney, and to reassign the functions of any office abolished. County Clerks in the five counties of the City will be appointed by the Appellate Division. For the use of up-state counties the legislature is required to draw up alternative forms of government from which these may choose. No new form of county government is to take effect until submitted to the electors of the county in a general election and approved by a majority of those voting there-on in the county as a whole, also in every large city of the county and in the rural districts, the latter provision designed to guard against undue conflict between urban and rural interests. The amendment is thought to make possible the abolition of a county spoils system now costing the tax-payers $18,000,000 per year.

Texas.—Less fundamental but likewise in line with progressive trends was the constitutional amendment accepted by Texas which abolishes, in favor of salary provision, the fee method of compensating county and district officers in counties of more than 20,000 population.

Oklahoma rejected a constitutional amendment the purpose of which was to create a state land office to have charge of the sale, rental, disposal and managing of the public lands of the state, and of any funds so derived; rejected also, by decisive majority, the amendment in which it was sought to abolish the apparently unique position of Oklahoma as the only state in which no woman may be governor or occupy any of the seven major offices in the state house.

Pennsylvania.—Finally may be

mentioned in this connection that, while New Mexico and Texas each rejected one minor proposal of constitutional change, the voters of Pennsylvania gave evidence more fundamentally of the same caution by refusing to allow the governor to call a constitutional convention to revise the state's constitution. This measure, intended to eliminate various elective offices, to make possible long-agitated social legislation and in general to put the state government more nearly square with objectives of the New Deal, although strongly advocated by the State Administration, was defeated by a large majority.

JUDICIAL PROCEDURE

New Mexico rejected two proposed constitutional amendments with regard to court procedure, one of them particularly designed to permit speedy public trial of persons accused of crime. New York, however, approved an amendment providing that a verdict may be rendered by not less than five-sixths of the jury in any civil case, with the aim to prevent hung juries, relieve congestion in the courts and expedite administration of justice. Texas adopted two amendments bearing upon court procedure. One allows the legislature to authorize temporary commitment, without necessity of jury trial, of mentally ill persons, not charged with criminal offense, for treatment and observation. The other authorizes courts having original criminal jurisdiction to suspend the imposition or execution of sentence and place the defendant on probation, and to re-impose such sentence under conditions which the legislature may prescribe.

ELECTORAL QUALIFICATIONS AND METHODS

Through a statutory measure referred to the electorate of Rhode Island and a constitutional amendment to that of Maine, provision was made in those states for the purchase and use of voting machines. Maine, in the same election, adopted also an amendment increasing from three to six months the period of residence in the state required as a qualification to vote. Michigan approved a minor amendment with regard to cases of tie vote or contested elections for any state office, and New Mexico rejected another concerning the fixing of time for holding elections.

EMERGENCY RELIEF

Emergency relief measures, so far as the electorates were directly concerned in the authorization, appeared largely in the form of bond issues for the purpose of supplying funds which, as supplemented by aid from the Federal Government, were to be used in works projects that would give immediate relief to some of the unemployed. Of the actual extent to which such bond issues were authorized by the voters, no adequate statement can be made here because this was often done—while on practically a state-wide basis—through the local government units. The legislature of Ohio, for example, in its last session passed a number of emergency laws authorizing counties and other units to provide relief through consent of the local electorates concerned, and as a result a large number of bond issues were approved by localities throughout most of the state.

The largest bond issue submitted to a single state-wide electorate was that of new York, referred, as provided in Chapter 505 of the laws of 1935, and approved by the voters, authorizing issue in an amount not to exceed $55,000,000 to provide relief from Nov. 15, 1935 to Feb. 15, 1937. Of this amount about $20,000,000 must go to permanent and necessary public works, including state hospitals, prisons and highways; while the remaining $35,000,000 will be to the aid of local disbursements for direct relief, the state paying 40 per cent and the municipalities 60 per cent of home relief costs—such local relief expenditures being necessary now that the Federal Government will confine its expenditures to work relief projects. The interest rate is limited to five per cent, and money borrowed on the bonds must be repayed in ten annual payments, the first falling due one year after date of issue.

The state-wide electorate of Rhode Island passed upon bond issues for the financing of eighteen separate relief projects, the largest of which—$3,000,000 for direct unemployment relief—was approved. Of the seventeen remaining projects, which taken together would have provided expenditures, for the improvement of specific state institutions and the development of natural resources of the state, of something over $8,000,000, five were approved authorizing expenditures of about $4,000,000. Maine adopted a constitutional amendment which provides for an increase in the amount of state bonds that may be issued for the purpose of matching Federal aid money. Oklahoma approved an initiative petition to make appropriation of $2,500,000 from the state's general revenue fund to the aid of poor relief to be supplied by the counties.

SOCIAL SECURITY

Social security measures were mainly proposals for old age pensions. Oklahoma was the scene of an interesting competition between a legislative referendum and an initiative petition, both, in the same election, proposing old-age pensions, but upon different terms. The legislative referendum specified that pensions were to be payable solely from cash raised from special taxes, that applicants must have resided in the state continuously for fifteen years before filing application, adding also severe limitations upon the pension amounts and other restrictions. The initiative petition provided for a more liberal pension system and specified that the legislative referendum should have no force or effect. The initiative petition was adopted while the other was defeated, but the totals indicate that a great many voters must have favored both propositions.

Kentucky, by a ratio of 91 per cent of the vote cast on the question, adopted an amendment to allow pensions for the aged and indigent poor. Texas, too, approved an amendment empowering the legislature to provide pensions of not to exceed $15 per month to citizens of the state who are over 65 years of age, and authorizing the legislature to accept from the Federal Government financial aid for old-age assistance. In the same election Texas rejected a proposed amendment which would have permitted the supply of state official text books free to every child of scholastic age, attending any school within the state.

TAXATION

Measures concerning taxation were referred to popular vote in two states. A North Dakota statute providing for a two per cent retail sales tax, referred by petition, was approved. Oklahoma approved an amendment, on initiative petition, providing that all homesteads within the state "may be exempted from *ad valorem* taxation by the Legislature, excepting all assessments, levies, encumbrances and contract obligations made previous to such act of the Legislature and providing that such act . . . shall remain in force for a period of not less than 20 years, in which time the amount of homestead exemption may be increased but not diminished." A competitive legislative referendum on the same subject in the same election was rejected.

PROHIBITION

Alabama, voting upon three statutory questions, decided *not* to modify the existing prohibitory laws, *not* to legalize light wines and beers, and *not* to legalize hard liquors. Three proposed constitutional amendments were referred in Georgia. The one proposing repeal of state prohibition was rejected. Two others, legalizing sale of beer and wines under local option, were approved. Voters of Texas endorsed an amendment which repeals state-wide prohibition in that state, and which at the same time prohibits the return of the open saloon and assures protection to districts remaining dry under local option. Kentucky added to her constitution an amendment which makes ineffective the existing prohibition amendment.

MISCELLANEOUS

A few measures were submitted which may not be classified with any of the above mentioned groups. In New York a proposed amendment, adopted, repeals the clause in the state constitution which imposes double liability on individuals who are stockholders in corporations and joint stock associations engaged in banking. This clause, in effect some 90 years, has been criticized as failing to assure protection to depositors, as working injustice upon stockholders, as handicapping banks in the raising of capital, and, in view of the new deposit insurance for banks, as being generally unnecessary. New Mexico rejected an amendment which would have permitted land exchanges between that state and the Government of the United States. Maine approved two measures both concerned with the Deer Isle-Sedgwick Bridge District, one a statutory proposal to create the district, the other a constitutional amendment to provide for the necessary bond issue.

In addition to the amendments, referenda, and initiatives thus enumerated, the total of 64 includes six constitutional amendments all of which were approved by the voters of Alabama in an election held late in December, only one-eighth of the qualified electors attending the polls, two of the measures authorizing certain local units to issue bonds, two permitting certain school districts and the city of Attalla to levy taxes for school purposes, one to abolish fees for county officers in two counties, and one exempting certain funds of building and loan associations from the franchise tax. It should be said also that three apparently state-wide referenda upon bond issues for relief which were rejected in California have not been included in the present account for lack of adequate information.

STATISTICAL SUMMARY

Of the 64 measures referred, and voted upon by the electorates of 12 states, 38 were constitutional amendments of which only two (in Oklahoma) were popularly initiated, and of which 25, including the two initiatives, were approved. Of the remaining 26, only one (in Oklahoma) originated by petition, one (in North Dakota) originating in the legislature was referred by petition, and 24 were referred by the legislature; and of the 26 there were approved by the voters 11, including the two petitions. Thus of the total number 36 were approved, while 28 were rejected. It may be noticed also that, 1935 not being a year for general elections, only seven of the measures were submitted in general elections, one in the municipal primary elections of Pennsylvania, and the remaining 56 in special elections, 31 of the 56 being approved.

CHANGES IN ELECTORAL LAWS

By Charles Kettleborough

Director, Indiana Legislative Bureau

OUTSTANDING AMENDMENTS

Although the election laws of the several states were extensively amended in unimportant details, very few changes of consequence were made during the year 1935. The most notable amendments were embraced in the laws which prohibit placing on the ballot the ticket of any party which advocates the overthrow of government by force or violence or which carries on or advocates a program of sedition or treason by the radio, speech or press, and the laws which provide that persons on relief shall not be considered to be paupers within the meaning of the election laws which prohibit paupers from voting.

REGISTRATION OR ENROLLMENT

In Florida re-registration is required before all elections in counties having a population of not less than 4,040 and not more than 4,080; Missouri enacted a registration law applicable to counties of 200,000 to 400,000 and to counties of 10,000 to 100,000; in Pennsylvania a separate registration law was passed for cities of the second class; West Virginia provided that the law requiring the registration of voters shall not apply to municipal elections unless so provided by ordinance or by special charter, and certain cities in Iowa were authorized by ordinance to require the registration of voters; Louisiana provided that the registration books of the parish of Orleans shall not be removed except by permission of the board of registration, and Alabama provided a method for adding to the voting lists the names of voters who live in a part of a county which has been added to another county. The amendments made to the registration laws of other states provided for the cancellation of registrations, the registration of absent voters, the date and hours for registration, intermediate registrations in certain cities, towns and villages, qualification and compensation of members of registration boards, the method of registering women who have changed their names, and the purging of the registration books.

CORRUPT PRACTICES

Alabama defined corrupt practices under the primary law; Louisiana enacted a new corrupt practices act and prohibited the use of Federal relief funds to influence the political support or attitude of any voter; Maine required registration of persons who are employed to aid candidates in the election, and Indiana prohibited the circulation of unsigned statements about any person who is a candidate for office.

PRIMARIES

Colorado prescribed a method by which a voter may change his party affiliation; Georgia required the public counting of the ballots in certain counties; Idaho required persons whose names are written on the ballot by voters to pay the same fee as candidates who file a declaration; Kentucky prohibited the printing on the general election ballot of the name of any person who was defeated at the preceding primary or who has violated the corrupt practices act; Nebraska provided for the nomination of members of the legislature, by petition, and by means of a non-partisan ballot, without designating their political affiliation; Florida required the nomination of county commissioners at the primary in counties having a population of 2,466-2,500; Louisiana provided for the appointment of special officers to preserve order at the primary and authorized party committees to call primaries; North Carolina placed three additional counties under the primary law, and Indiana provided that a petition shall accompany the declaration of a candidate and prohibited the circulation of slates unless signed by the circulators.

ABSENT VOTERS

Indiana enacted the absent voters law which had been repealed several years ago, and North Carolina exempted 13 counties from the operation of the absent voters law. Detailed amendments made to the laws of other states relate to the identification of envelopes, permits absentee voters to vote in person or by mail and prescribes the method of applying for an absent voters ballot.

CONTEST AND RECOUNT

Illinois, Kentucky and Missouri enacted laws enabling candidates to contest primary elections and require a recount; California prescribed a method to contest the right of any person to be a candidate at a primary; Montana enacted a new recount law applicable to all elections; New Hampshire enacted a law relating to the recount of votes cast at general elections, and Arkansas and Indiana provided for the appointment of special judges to hear and determine election contests.

PARTY MACHINERY

Alabama authorized county executive committees to require that its members shall be elected by the voters and if required to be elected that a declaration of candidacy shall be filed the same as for other candidates, and Kansas required that every precinct committeeman should be a member of the party and, if not a member at the time of election, he must file a declaration within ten days after the election that he has changed his party affiliation.

RECALL

California extended the recall to apply to all elective offices of cities which are denominated "cities of the second and one-fourth class," and Colorado extended the recall to all elective county officers.

INITIATIVE AND REFERENDUM

Arkansas prescribed the method of submitting county acts and measures to the voters and limited the time for filing referendum petitions on municipal measures to 30 days.

GENERAL ELECTIONS

Arkansas prohibited any person from voting unless his poll tax is paid and South Carolina permitted voting in certain cities even though the taxes, other than the poll taxes, of the voter are not paid. Louisiana provided that all election boards shall be appointed by the Governor. Massachusetts prohibited the posting of pasters or stickers in or near voting places. In Mississippi a naturalized voter must present the decree or certificate of naturalization at least four months before the election. Montana prescribed the residence of voters by excluding inmates of CCC camps. Ohio provided for double election boards, one to receive and the other to count ballots. Kansas and Michigan provided for assistance to voters who are physically disabled, Montana to electors voting on voting machines, and New Hampshire to blind persons. Maryland authorized certain counties to buy and use voting machines. Montana provided for the election of judges on non-partisan tickets. Vermont authorized a voter to retain his residence by giving an appropriate notice thereof.

NEW PARTIES AND NOMINATIONS

Illinois prescribed the number of signers of a petition to form a new political party and the number of signers of a petition to nominate independent candidates. North Carolina increased the number of voters required to nominate an independent candidate from ten per cent to 25 per cent. Ohio required independent candidates to pay a filing fee of one-half of one per cent of the annual salary of the office. Oregon prescribed a method of nominating candidates by petition by minor parties. Rhode Island provided for the nomination of candidates by caucus in the town of Portsmouth. Maryland provided for the nomination of county and legislative candidates in Worcester county by a county convention. Nevada provided for the selection of delegates to the national convention by the state convention. New Mexico provided for the nomination of candidates by conventions which are governed by rules adopted by the respective party committees. The rules for the state convention are filed with the secretary of state and for the county convention with the county clerk.

LAW REFORM

BY CLINTON ROGERS WOODRUFF

DIRECTOR OF PUBLIC WELFARE, PHILADELPHIA

PROPOSED ADMINISTRATIVE COURT

On June 5, 1935 Senator Marvel Logan introduced S. 1835, to establish a United States Court of Administrative Justice and to expedite the hearing and determination of controversies with the United States, and for other purposes. The bill was referred to the Senate Judiciary Committee. The proposed court would consist of a chief justice and 14 associate justices and would exercise the jurisdiction now possessed and exercised by the Court of Claims, the Court of Customs and Patent Appeals, the jurisdiction now possessed and exercised by the several Circuit Courts of Appeal and the Court of Appeals of the District of Columbia to review the decisions of the Board of Tax Appeals, and jurisdiction now possessed by the Circuit Courts of Appeal to review the judgments of the United States District Courts against the United States or against collectors of internal revenue. It would also exercise jurisdiction over writs of mandamus or bills for injunction against officers and employees of the United States. All final judgments of the court would be reviewable by the Supreme Court of the United States under the Act of Feb. 13, 1925.

AMERICAN BAR ASSOCIATION MEETING

The 58th Annual Meeting of the American Bar Association was held in Los Angeles July 16-19. It was, perhaps, the most successful meeting of the body thus far held. One of the leading topics was the better organization of the bar although war on the criminal was the real keynote. Two more sections were organized, one on municipal law and another known as The Junior Bar Association to bring the younger men of the profession together. Among other actions taken was the recommendation of the passage of the pending congressional bill to cure the evils of soliciting Mexican divorce practice in the United States. It also recommended that written bar examinations include questions on legal ethics and that there be an oral examination of applicants for admission touching upon their knowledge of and adherence to the principles of professional ethics.

The Association has for some years been keeping a careful check of the number of members affiliated with local, state and national Bar Associations. At the Los Angeles meeting it presented the following report:—

Number of members of state bar associations:		
A. In 16 integrated bar states	33,835	
B. In 32 other states and the District of Columbia	40,651	
		74,486
Number of lawyers in 57 large city bar associations in states not having integrated bar	35,000	
Number of these not belonging to state bar associations according to average estimate of bar association secretaries		17,500
Estimated number of members in 275 other active local bar associations in states not having an integrated bar	16,000	
Number of these members not belonging to the state bar associations, according to average estimate of bar association secretaries		8,000
Number of members of the American Bar Association not belonging to either a state or active local bar association		3,500
770 additional associations in states not having an integrated bar enrolling on the average 30 members each, would include approximately 23,100 members. Figuring half of these as belonging to the state bar associations, and an additional 1,500 as being members of regional associations already counted or of the American Bar Association, the number of additional lawyers engaged at least nominally in bar association activities is		10,000
		113,486

The census of 1930 showed a total of 160,605 lawyers in the United States. Since that time the number of new admissions to the bar has been as follows:— 1930, 10,254; 1931, 9,824; 1932, 9,340; 1933, 9,258; 1934, 9,099. Total 47,775.

MUNICIPAL LAW

A Section of Municipal Law was organized at the Los Angeles meeting of the American Bar Association, a testimony to the significant work of the Committee of that name and to the growing realization of the importance of the subject and the large number of lawyers who are interested in that branch of the law. This Committee was appointed in 1933 to test out the sentiment of municipal lawyers as to the possible function of such a group. As a result, the Executive Committee at its May meeting in Washington decided to recommend the formation of such a Section, and will so recommend in its report.

Owing to the great multiplication of the activities of government today there is a great army of the profession whose service as lawyers is rendered to government and who act and speak for the public side and the public approach to legal questions. There is an additional reason from the public point of view. If local government in this country is not to give way to remote centralization of power, a great deal remains to be done and done quickly to improve and restore the vitality of municipal and local government in this country. Charles W. Tooke was chosen Chairman of the Section.

AMERICAN LAW INSTITUTE MEETING

The 13th Annual Meeting of the American Law Institute was held in Washington May 9-11 at which time the proposed final draft of the Restatement of Trusts was presented, considered and approved, subject to certain minor changes which the Reporter was authorized to make. Parts of the Restatements of Property, Torts, Restitution and Unjust Enrichment, and Sales of Land were also presented in tentative draft form and discussed. In addition, the proposed final draft of a statute on Double Jeopardy was approved.

LAW PRACTICE IN LOUISIANA

Louisiana has distinguished itself in many fields during recent years, not omitting the field of the practice of law. A State Bar Act was passed by a recent session of the Louisiana Legislature before the death of Senator Long which shows a plain provision for a political Board of Governors. That body is to be composed of one member from each congressional district, nominated at the regular party primaries, as now provided by law, and elected at the regular congressional election by the people. In other words, candidates for the governing body are to run with a party label, and the nomination and election are likely to be determined by political considerations which have nothing to do either with their duties or their capacities.

Another chapter in the same field is the action of the Council of the Section of Legal Education and Admissions to the Bar which at its meeting in Washington on May 9 put the Law School of Louisiana State University on probation. In doing this it declared that action with regard to this school was taken by reason of a report made by the Adviser of the Council after a recent inspection of the school. From this report it appears that a law degree has been granted on the direction of the President and Board of Supervisors of the University without recommendation by the law faculty and before completion of the Law School work in due course by the individual receiving the degree.

AWARD TO ST. LOUIS BAR ASSOCIATION

For ''determined and courageous action'' that has ''engendered a new consciousness on the part of the bar concerning all matters of ethics and professional standards,'' the St. Louis Bar Association has been signally honored by the award of the city's Certificate of Civic Merit for 1934-35. The certificate, ordinarily awarded to an individual for some conspicuous service in behalf of the community, was given this year to the organization because the committee, while recognizing the fact that special commendation belonged to the Association's grievance and executive committees, said it felt ''the activities of the association constitute essentially a group movement born out of complexity of human desires, needs, and aspirations of its members.''

With the certificate goes a cash award of $1,000, which the bar association is expected to place at the disposal of some worthy cause.

COUNTY AND RURAL GOVERNMENT

BY ORREN C. HORMELL

PROFESSOR, BOWDOIN COLLEGE

GROWING PUBLIC INTEREST

Although the government of the county (including subordinate units) remains the most backward among the American governmental units, growing public interest in county and local government (see THE AMERICAN YEAR BOOK 1934, p. 127) has continued unabated through 1935. Advances made in the reform of county and local government in widely separated states indicate that the general trend is along the lines of simplified organization, centralized responsibility, and more efficient administration.

The continuing or increased interest in county and local government during 1935 is particularly evidenced by:

(1) The notable constitutional or statutory enactments relating to local government in New York, Ohio, Michigan and Wisconsin.

(2) Campaigns for charters under home rule provisions (see THE AMERICAN YEAR BOOK 1934, p. 128) in Ohio, California, and New York.

(3) Investigations or reform programs sponsored by governors, including those of Arizona, Delaware, Indiana, Massachusetts, New York, Oklahoma, Virginia, Wisconsin, and Wyoming.

(4) Recommendation for reorganization submitted by survey commissions, legislative committees, tax commissions, and civic organizations (see below).

(5) Founding of the American County Association. (A. B. LaZoris, Executive Director, headquarters Hotel LaSalle, Chicago.) This association is "devoted to Better County Government." Its official publication is the monthly magazine *The National County*.

(6) Space given to local government by the *National Municipal Review*, *Public Management*, and *American City* (See THE AMERICAN YEAR BOOK, 1934, p. 127).

(7) Sponsoring of county and local government reform by the Governmental Research Association (Robert M. Paige, Secretary) and by the National Municipal League. At the annual meeting of the League (Providence, Nov. 25-26) County Reorganization was discussed in two group sessions with Earl J. Bennett, Chairman of Nassau County (N.Y.) Commission on Governmental Revision, presiding.

(8) Campaigns for reform conducted by municipal leagues, notably the League of Municipalities, St. Louis, and by the League of Women Voters of Wisconsin.

PLANS FOR REORGANIZATION AND REFORM

Among the numerous plans for reorganizing county and local government proposed during the year, outstanding are those presented by The Taxation Division of the Chamber of Commerce of the U. S., Charter revision commissions in scattered counties in New York, Ohio, and California, County court judges in Jackson County, Missouri, Milwaukee, Wisconsin joint city-county committee on consolidation, Los Angeles Committee on Governmental Simplification, St. Louis League of Municipalities, Pittsburgh Metropolitan Plan Commission, Indiana State Committee on Government Economy, and Colorado, Interim Committee (of the Legislature) on County Government. The Colorado Committee's recommendations include: Constitutional amendment providing for county consolidation, appointment of receivership for insolvent counties, transfer of county welfare work and road construction and maintenance to the state.

Critical estimates of present conditions and constructive proposals relating to reform in local government are presented in several outstanding surveys. Among these the following are worthy of special mention: Pierce County (Washington) Taxation Bureau, *Analysis of Pierce County Government;* Los Angeles County Bureau of Efficiency, *Annual Report;* Erie County (N. Y.) Survey Commission, *First Report (Legislative Document, 1935, No. 87);* University of California, Bureau of Public Administration, *County Consolidation;* Indiana State Committee on Governmental Economy, *Report to the Assembly;* New York State Commission for the Revision of Tax Laws, *Reorganization of Local Government in New York State (Legislative Document, 1935, No. 63);* Wayne County (Mich.) Research Bureau, *The Cost of County Government,* and Governor's Commission (Ohio) on County Government, *The Reorganization of County Government.*

RESEARCH

A research project of unusual promise is being conducted by Princeton University in the field of local government in New Jersey. Continued research in the field of local government by the North Carolina Institute of Government is promised through state and Federal financial support and the erection of a permanent building at Chapel Hill to be a laboratory of government.

NEW YORK HOME RULE CONSTITUTIONAL AMENDMENT

Legislation relating to counties is significant more for its quality than for its quantity. Outstanding in the field of local government legislation is the Home Rule Constitutional Amendment adopted by the voters of the State of New York, Nov. 5, 1935. Its significance justifies the inclusion of a summary in this article. The editor of the *National Municipal Review,* September, 1935, summarizes it as follows:

"In reality the amendment is two amendments in one. The first part applies to counties outside New York City; the second, to counties within New York City. The important points in Part I are:

1. The legislature must submit to voters of every county in the state alternative forms of county government for them to choose the form they think best suited to their own locality.
2. In order to safeguard the rights of minorities of citizens who live in rural areas, any form must be adopted by (a) a majority of the number of those voting on the proposition within the whole county; (b) a majority of the number of those voting on the proposition in any city containing more than 25 per cent of the population of the county; and (c) a majority of the number of those voting on the proposition who live outside such city or cities but within the county.
3. After adoption of any form of government, the legislature is definitely prohibited from interfering by special act in the affairs of the county except on an emergency message from the governor and a two-thirds vote in the legislature. If the act changes the form of government or touches an elective office, a popular referendum in the county concerned also is required.

"The important points in Part II (which affects New York City only) are these:

1. The City of New York is given power by local law to abolish any county office within the city except that of judge, county clerk, and district attorney. The functions of any office to be abolished may be assigned to any other existing office in the city or to the county clerk or to the courts.
2. After action by the city with respect to any county office, the legislature may not again interfere except on emergency message from the governor and a two-thirds vote."

COUNTY GOVERNMENT LAW OF NEW YORK

Second only in importance to the County Home Rule Amendment to the New York Constitution is the optional county government law prepared by the "Mastick" Commission (State Commission on the Revision of Tax Laws) in consultation with representatives of the National Municipal

League. Under this law, counties may adopt the county executive plan providing a president elected for a four year term by the voters of the county, or a county manager with a four-year term appointed by the county board of supervisors. Procedure for adopting either plan includes acceptance of the plan by vote of the electors after the question of adoption has been placed on the ballot either by a petition of 10 per cent of the voters or by a resolution voted by the Board of Supervisors.

A special act of the legislature authorized the appointment of a charter commission for Monroe County (Rochester) so that the procedure for a new charter for that county begun under the ''Fearon'' home rule charter act could be continued without interruption. (See THE AMERICAN YEAR BOOK 1934, p. 130). See below, the action taken on the Monroe County charter.

A special Act for Nassau County submitted, to a referendum of the electors of the county, a new county charter which places the legislative power in the hands of a ''county board of representatives'' consisting of seven members elected from seven districts, and bestows the executive functions on an elective president with wide appointive powers.

LEGISLATION IN OTHER STATES

Colorado.—The Colorado legislature failed to pass the constitutional amendment and the several bills relating to county consolidation and transfer of functions to state authorities advocated by the interim committee on county government. (See above for the recommendations of this committee.)

Michigan.—The legislature of Michigan passed a resolution for the submission to the voters of the state in 1936 of a constitutional amendment relating to county reorganization. It falls far short of the comprehensive home rule amendment defeated by the voters in 1934. (See THE AMERICAN YEAR BOOK 1934, p. 129.) The legislature is authorized to ''provide by general law for the incorporation of counties; such general law shall limit the rate of taxation for municipal purposes and restrict their power of borrowing money and contracting debts.'' A mild form of home rule is provided for under the article authorizing the electors of each county to frame, adopt, and amend its charter. Such charters or amendments require, however, the affirmative vote of a majority of the electors voting thereon, not only of the county but also of the most populous city (''city casting the largest number of votes'') and of the voting electors residing outside the corporate limits of such city.

Wisconsin.—The legislature of Wisconsin enacted a county consolidation law (Wis. Statute, Act 332) sponsored by the Wisconsin League of Women Voters under the leadership of Mrs. Frederic A. Ogg, which permits the consolidation of two or more counties by a referendum vote on the question of consolidation submitted by the initiative of 20 per cent of the voters or by joint action of the governing boards of the interested counties.

Ohio.—The Ohio legislature refused to pass the major items in the program presented by the ''Commission on County Government''. One act permits, through contractual relations between the county and subdivisions, the transfer of agreed-upon functions or services from the subdivision to the county. The cost of such services, however, is to be charged back to the subdivision. The second act permits counties adopting charters to transfer to the county by mere majority vote such county wide functions as health, parks and non-institutional poor relief. This act is obviously of special interest to urban counties. Reorganization of school districts in Ohio counties, to the end that inefficient districts may be eliminated, was provided for in the so-called Traxler-Kiefer Act. The State Department of Education was authorized to withhold state subsidies from counties which fail to execute reorganization plans approved by the State Department.

Indiana.—The legislature of Indiana authorized boards of county commissioners to establish a county planning board entrusted with the duty of adopting a plan for the physical and economic development of the county, including the preparation of zoning ordinances. Two or more counties were authorized, with approval of the State Board of Health, to establish jointly a health district.

New Jersey.—The New Jersey legislature passed a comprehensive county planning act defining powers of county planning boards and authorizing the creation of joint municipal or municipal and county or regional planning boards.

Florida.—The proposed consolidation of the County of Duval and the City of Jacksonville, Florida was defeated by a vote of the electors of the county and city. (See THE AMERICAN YEAR BOOK, 1934, p. 129.)

COUNTY CHARTERS

Ohio.—Probably the most significant development in the field of county government in 1935 is the work of charter commissions in several counties in Ohio, California and New York. The county charter commissions elected Nov. 6, 1934 in four Ohio counties, Cuyahoga (Cleveland), Hamilton (Cincinnati), Lucas (Toledo) and Mahoning (Youngstown), (See THE AMERICAN YEAR BOOK, 1934, p. 128), prepared and submitted home-rule charters for the approval of the electorate, Nov. 5, 1935. The charter for Cuyahoga County was approved while those for the other three were rejected by the voters. With the exception of the Mahoning County Charter, the Ohio charters provided for the establishing of an appointive county executive with the status of a county manager.

The Cuyahoga County Charter, the only one approved, deserves a brief description. The charter provides for a county council of nine members, eight of whom are elected at large by proportional representation, and the ninth, the presiding officer, separately, by preferential ballot. The council is the legislative body, and in addition appoints for an indefinite term a chief executive official, the "County Director". The director is authorized to appoint and remove heads of departments and to exercise the powers usually vested in a manager. Six major departments are provided for: law, finance, public works, records, health, welfare and public safety. The prosecutor is appointed by the president of the council, while the controller is the appointee of the council. All officers and employees, under the rank of department heads, are selected, promoted, and removed under an adequate merit system.

It is interesting to note that the Cuyahoga County Commission alone among the four Ohio county commissions included in their reorganization plan the system of proportional representation. It should be noted further that although metropolitan reorganization was of major importance in all four counties (especially in Cuyahoga) and although there was an outspoken demand for the relegation of municipal and township governments to the status of boroughs in a metropolitan unit of gvernment, no commission was willing to risk the failure of securing popular support for simple county reorganization by combining the two in the initial charter. County reorganization, once adopted, it is believed may pave the way for metropolitan unification.

New York.—The voters of Monroe County, New York, (Rochester), approved the county manager plan for the county. The plan includes the appointment by the Board of Supervisors of a professional manager, with a term of four years, removable only for cause. The manager's powers include appointment of department heads, budgetary control, and supervision of the chief departments into which county functions are merged.

California.—Under the California Home Rule Charter System (See THE AMERICAN YEAR BOOK, 1933, pp. 152-3; 1934, p. 129), three county charters were submitted to the voters: San Luis Obispo, March 19, Kern, May 3, and Butte, June 4. In each county the proposed charters were decisively defeated. The charters of two counties, Butte and Kern, provided for county executives. Other proposed reforms included combination of health and welfare services, consolidation of road districts and provisions for more adequate financial and purchasing procedure.

During the year 1935, Sacramento

County, and San Mateo County have continued to operate under the county executive plan, with unquestioned success in Sacramento, while San Mateo has suffered from petty dissentions and peanut politics within the board of supervisors. The wide publicity given to the unfortunate situation in San Mateo County may have influenced the results in the three charter elections cited above.

ADMINISTRATIVE AND FISCAL REFORMS

Virginia.—The movement to extend to counties and their subordinate units better methods of carrying on the government's business continued unabated through 1935. The first county manager budget for Henrico County, Virginia, provided for a 26 per cent reduction in the general county levy, based on the proposed reorganization of administrative functions.

Indiana.—The Indiana legislature strengthened state control over local government units by requiring county, city, town and school corporations to budget anticipated state funds, to purchase materials for highway maintenance on the basis of open competitive bids, and to make no additional appropriations after adoption of the annual budget without approval of the state board of tax commissioners.

Tennessee.—An audit-survey of Hamilton County, Tennessee, by a Chicago firm of accountants paved the way for budgetary and other fiscal reforms in that county.

Washington.—The Pierce County Taxation Bureau of Tacoma, Washington, in an excellent survey of Pierce County Government, recommends among other things centralized purchasing on the basis of competitive bidding, centralizing all branches of county welfare under one supervising head, combining into one office the functions of the county assessor and the tax collector, consolidating the auditing for all county institutions under the county auditor, consolidating all road districts, the abolishing of the offices of sheriff and constables and transferring their duties to the State Patrol and the County Clerk.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Legislators Assn., Equitable Bldg., Denver, Colo.

Civil Service Forum, 985 Lenox Road, Brooklyn, New York City.

National Assn. for Constitutional Government, 716 Colorado Bldg., Washington, D. C.

National Civil Service Reform League, 519 Fifth Ave., New York City.

National Municipal League, 309 E. 34th St., New York City.

DIVISION V
MUNICIPAL GOVERNMENT

NEW YORK CITY AFFAIRS

By Rinehart J. Swenson

Professor, New York University

FINANCES

Revision of Tax Assessment Base.—The Board of Taxes and Assessments, with the cooperation of the Corporation Counsel, added $200,000,000 in 1935 to the city's assessment base, by increasing the assessment on power houses, gas tanks, and other properties of the utility corporations. This is expected to bring to the city nearly $5,000,000 in additional taxes. The Board also re-examined over 13,000 parcels held by religious, benevolent, educational and other institutions on which no taxes were paid under the exemption provisions of the tax law. Many of these properties were put back on the tax rolls. This work has been carried on with a reduced staff, and the 1935 budget, compared with the year of the last previous administration, 1933, shows a reduction from $1,093,578 to $962,895 or 11.9 per cent.

Modernization of Finance Department.—Complete modernization of the Department of Finance is proposed. The Department in 1935 assessed 811, 616 parcels at an assessed valuation of $16,649,771,199, representing a decrease from the peak in 1932 of about 15 per cent; recorded over 7,000,000 statistics and an equal number of word descriptions, collected at a cost of approximately $1,000,000; produced 849 books of record, all handwritten, and held 43,726 hearings on applications for changes in assessments (by the Commissioners, not by the deputies as in the past). Although this Department is basic to the city's credit and finance, it has no statistical head and lacks the ordinary requisites of a modern office.

City's Improved Financial Status.—The Department of Finance issued a sanguine report indicating that the financial status of the city improved during 1935 as indicated by the following statistical summaries:

TAX LEVIES AND COLLECTIONS

	1934	1935
Total tax collections	$579,827,927.35	$629,155,396.38
Tax levy	472,544,112.15	469,370,548.00
Tax collections on account of the annual levy	369,980,567.76	391,657,981.57
Tax collections on arrears	114,981,255.20	93,373,526.36

AMOUNTS RECEIVED FROM STATE AS CITY'S SHARE OF TAXES

Class of Tax	1934 Receipts	1935 Receipts
State Income Tax	$5,634,634.66	$ 6,351,778.93
Bank Tax	2,534,343.30	3,160,635.63
Excise Tax on Beer and Liquor	7,870,850.75	10,127,032.39

OUTSTANDING SECURITIES

	Net Amount of Securities Outstanding Dec. 31, 1935	Real Estate Taxes Uncollected Dec. 31, 1935
Revenue Notes issued against taxes of 1933 and prior	$39,734,500.00	$77,936,130.16
Revenue Notes issued against taxes of 1st half 1934	2,742,000.00	14,744,022.45
Revenue Notes issued against taxes of 2nd half 1934	7,891,000.00	19,751,933.43
Revenue Notes issued against taxes of 1st half 1935	18,935,000.00	26,636,302.32
Revenue Bills issued against taxes of 2nd half 1935	34,838,000.00	44,324,336.30
Total	$104,140,500.00	$183,392,724.66

UNCOLLECTED TAXES

Year	Tax Levy Real Estate	Amount Uncollected Dec. 31, 1935	Percentage Uncollected Dec. 31, 1935		Amount Uncollected Dec. 31 each year	Percentage Uncollected Dec. 31 each year	
1929	$458,197,584.66	$ 4,174,377.42	.91		$ 66,666,325.68	14.55	
1930	488,611,595.94	6,432,103.45	1.32		71,224,444.78	14.58	
1931	504,987,914.87	10,065,272.22	1.99		89,391,425.95	17.70	
1932	526,206,102.89	16,903,641.18	3.21		139,233,534.18	26.46	
1933	449,536,371.66	22,360,566.55	4.97		118,759,213.51	26.42	
1934 1st half	236,273,301.75	15,976,921.53	6.76	7.91	37,178,523.24	15.74	21.22
1934 2nd half	236,270,810.40	21,414,934.94	9.06		63,092,097.10	26.70	
1935 1st half	234,686,039.84	27,787,297.41	11.84	15.77	27,787,297.41	11.84	15.77
1935 2nd half	234,684,508.16	46,227,874.32	19.70		46,227,874.32	19.70	

EXPENDITURES AND SAVINGS IN CITY PURCHASING

During 1935 the Department of Purchase spent $22,000,000 (city funds) on supplies, materials and equipment for the various city departments, and $10,000,000 (relief funds) for the requirements of the CWA (Civil Works Administration), the TERA (Temporary Emergency Relief Administration), and the FERA (Federal Emergency Relief Administration) for the first five months of the year.

Commissioner Forbes has developed requirement contracts for 61 commodities. This new purchase procedure, already in use in private industry, eliminates the necessity for large warehouse stocks and reduces the volume of open market orders. Further savings have been effected by the remodelling and consolidating of storehouses. The Department has reduced the number of storehouses from 66 to 54, and at the present time storehouses are being constructed as work relief projects which will centralize and still further reduce the number now maintained.

By efficient purchasing and by reducing the number of requisitions from using departments, the Purchase Department will be able to return to the General Fund for the Reduction of Taxation approximately $500,000 of the General Purchase Fund appropriated in the 1935 budget.

The Board of Standardization adopted 52 specifications as tentative standards during the past year, and 993 are now in preparation, to increase competitive bidding and enable the city to secure the most for each dollar expended.

TRANSPORTATION

Rapid Transit Unification.—After 14 years of indecisive effort to unify the rapid transit facilities of New York City, the present negotiators, Chamberlain A. A. Berle, Jr. and Judge Samuel Seabury, effected within the last few months of 1935 a tentative agreement to purchase the rapid transit properties of the Brooklyn-

Manhattan Transit, the Interborough, and the Manhattan Railway Companies.

Through provisions of the Transit Unification Bill, signed by Governor Lehman early in May, 1935, the properties may be leased by the city to a Board of Transit Control for 75 years. The Board may operate them and give mortgages on the leases to the traction companies. The city-owned Eighth Avenue System may also be leased to the Board, although this lease is not subject to consolidation without the city's consent. The bill requires a compulsory referendum on any attempt to increase the fare, contains a provision for a "¾ vote of the local authority" for approval of appointments made by the Mayor to the Board, and gives the Transit Commission board regulatory powers over the acts of the Board of Transit Control.

The Seabury-Berle plan calls for a gross purchase price of $430,751,000, approximately $59,000,000 less than the amount specified in the Untermyer proposal of June, 1931 and about $44,000,000 less than that offered under the plan of the Transit Commission in December of that year. It provides that the gross total be divided as follows: cash or corporate stock $109,968,000; Board of Transit Control first lien bonds, $187,362,580; Board of Transit Control second lien bonds, $110,997,420; and underlying bonds subject to which the properties are being acquired, $22,423,000. All city bonds are to mature in 50 years or less, and efforts will be made to exclude them from the city's debt limit. The city will in no way guarantee the bonds of the Board of Transit Control. As the terms of the liens under which these bonds are to be issued will provide for a sinking fund calculated to retire them at maturity, they should be paid off at the end of the 75-year period.

There are a number of legal problems which must be solved before complete unification can be effected. Because the Interborough and Manhattan systems are in Federal receivership, the consent of the United States District Court to any agreement must be obtained. Then, too, the city negotiators must draw up a "definitive" plan, and public hearings must be held before the Transit Commission. It is doubtful, therefore, if transit unification can be achieved before 1937.

Sixth Avenue Subway.—One of the concessions gained by the Seabury-Berle plan for transit unification was the provision enabling the city to proceed, before unification is accomplished, to demolish the Sixth Avenue Elevated structure. It is estimated that the city would save from $3,000,000 to $5,000,000 if this could be done before subway excavation is begun. It now remains for the Transit Commission to resume hearings on its demolition. Although it was at first planned to ask for a PWA (Publice Works Administration) loan of $57,000,000 to finance the construction of the Sixth Avenue trunk line of the Eighth Avenue system, the Mayor has abandoned this scheme and will now endeavor to finance the work with an issue of city bonds. The first construction contract has already been awarded. With this new line in operation, the Eighth Avenue Subway system as originally planned will be practically completed.

Surface Transportation and Traffic.—During 1935 bus transportation has been substituted for street cars on Madison, Eighth and Ninth Avenues. The needs of automobile owners have not been overlooked in the city's traffic plans. Completion of the West Side Express Highway extension is expected in January, 1936, and work is progressing on the East River Drive. In Queens, the Laurelton Parkway has been completed and the Interborough Parkway connecting Brooklyn with the Long Island Parkway system has been opened. In addition to the Triborough Bridge, Henry Hudson Bridge and Midtown Hudson Vehicular Tunnel, all under construction of a vehicular tunnel under the East River, connecting Manhattan and Queens.

PUBLIC RELIEF

Administration.—At the beginning of the year, work relief in the city was administered through the Works Division, and direct relief through the Home Relief Division of the Emergency Relief Bureau (ERB), the latter consisting of six members appointed by the Mayor, as provided by the State Emergency Relief Act, to administer all forms of emergency relief for which state funds were allocated by the State Temporary Emergency Relief Administration. The ERB was also in effect as the local agency for the Federal Emergency Relief Administration (FERA). Funds for both work and direct relief were derived from three sources, the National Government contributing 50 per cent through the FERA, the State Government 25 per cent through the TERA, and the city 25 per cent through the ERB. In April Congress passed the emergency relief act appropriating $4,880,000,000 to finance a work relief program which would bring all work relief under the control of the National Government and leave direct relief to the states and local governments. On Aug. 1 the Works Division of the ERB was superseded by the Federal Works Progress Administration (WPA).

Relief Employment.—At the beginning of 1935 there were 115,008 persons—100,218 men and 14,790 women—on the payrolls of the Works Division. Of these 79,588 were employed on engineering projects, 31,795 on service projects, and 3,625 were assigned to administrative duties. On Aug. 1 there were 98,489 persons on the work relief payrolls. The city's quota of WPA employees was fixed at 220,000, which was reached on Oct. 25. Later the quota was advanced to 225,000 and by Dec. 31 the total employed was 245,035.

Expenditures for Work Relief.—From Jan. 1 to July 31, the expenditures for work relief in the city totalled $69,154,031.86, of which $59,177,157.37 was for payrolls and $9,976,874.49 for materials, equipment hire, office furniture, and supplies. Of the total, $42,290,902.74 was expended on engineering projects, of which $16,328,220.23 were for parks projects, $11,813,839.84 on service projects, and $2,497,448.40 on administration. From Aug. 1 to Dec. 31 WPA expenditures totalled $93,872,380, making a total of $163,026,411 for all work relief for 1935.

Recipients of Direct Relief.—An estimated number of 326,000 cases, or approximately 1,304,000 persons received direct relief during the year, as against 318,000 cases, or approximately 1,272,000 persons for 1934. During the year more than 1,200 families left the home relief rolls every week for jobs in private industry. The ERB closed 258,458 cases during the year: 141,000 were transferred to WPA jobs; 63,441 to private industry; 1,067 to CCC camps; 9,000 secured temporary relief through insurance adjustments; 2,000 obtained old-age or other pensions; 2,085 were helped by friends or relatives, and 1,392 were accepted for care by private welfare agencies.

Expenditures for Direct Relief.—The total expenditure for home or direct relief was about $96,100,000, as against $73,760,000 for 1934 (not including CWA, which totalled $88,700,000 from November, 1933 to April, 1934). These figures do not include the costs for Federal surplus food stuffs, school lunches, care of the homeless and some additional administrative expense. Since Aug. 1 the state contributed 60 per cent and the city 40 per cent of the funds for direct relief. Accordingly, the total cost of work relief and direct relief in the city for 1935 was $259,126,411.

WATER SUPPLY, GAS AND ELECTRICITY

In January, 1935 the Department of Water Supply, Gas and Electricity completed a survey of the entire water system of the city, including the method of charging for water, its use, and the amount of waste. This survey is of inestimable value in the universal metering plan under consideration; also in the development of new water sources for future needs.

Through threats of a municipal power plant to serve both public and private consumers, Commissioner Maurice P. Davidson won a rate reduction from the Consolidated Gas system for the city's power needs amounting to some $1,750,000 less than the amount charged under the 1934 contract. These are the lowest rates ever offered the city. However, the rate reduction for general consumers was not regarded as satisfactory by Mayor La Guardia, inasmuch as a flat 20 per cent reduction had been requested and the new rates approximated a reduction of 8 per cent, or a decrease of about five cents per month for the average residential customer.

The Mayor continued his plans for a ''yardstick'' plant, insisting that the city would be able to sell current to all classes of consumers at 40 per cent less than charged by the Consolidated Gas system. For the construction of such a plant he asked the Municipal Assembly to approve a Federal loan of $45,000,000, but this proposal was rejected by the upper branch of that body. He then secured the passage of an ordinance providing for the submission to the voters of the city, at the November election, of a proposal authorizing the city to create an authority or agency with powers to construct such a plant and to finance the construction by the issuance of bonds, not to exceed in the aggregate the par value of $49,500,000, to which the credit of the authority might be pledged but not the credit of the City of New York. However, the Consolidated Gas system secured a ruling by Supreme Court Justice Edward A. Dore, which was upheld by the Appellate Division and by the Court of Appeals, enjoining the city from submitting the referendum to the voters, on the ground that the city ordinance was in conflict with state legislation which required the city to pledge its credit if it elected to construct a municipal power plant.

A signal victory was won by the city on the issue of fixing rentals for transformer vaults maintained by electric companies in connection with their distribution systems, as a result of which it is estimated that a revenue of about $500,000 will accrue to the city. The Court of Appeals sustained the city's contention that these vaults were not permissible under a company franchise, and the companies are now required to apply to the Board of Estimate for permission for further installations.

PLAYGROUNDS

Of the 203 playgrounds added to the park system since the beginning of the present administration, 78 have been opened to the public and are in operation, and it is expected that 125 more will be opened by July, 1936. The new playgrounds have been located mostly in centers of congested population and they range in size from the quarter-acre neighborhood playgrounds for infants and small children to such great recreational parks as Chrystie-Forsyth, which is really seven blocks of outdoor gymnasium; Leiv Eriksson in Brooklyn, which is five blocks of intensive development; the Jackson Heights Playground in Queens, with its large running track, athletic field and skating rink; Flushing Memorial in Queens, with its athletic field; the ten-block, fifty-acre athletic center in the long neglected Red Hook section in Brooklyn; Randall's Island in the East River, with every variety of play facility; Throggs Neck in the Bronx, with facilities for adult recreation; the entire section of Alley Pond Park, south of the Grand Central Parkway, that has been developed intensively for active play; the active play area at the mouth of Coney Island Creek on Gravesend Bay in Brooklyn; the old reservoir at Williamsbridge in the Bronx; the ten blocks converted into active recreation in Colonial Park in Harlem; and the whole of Marine Park north of Avenue U in Brooklyn and the Juniper Valley Park in Queens.

PARKS

In addition to the new playgrounds added to the recreational system, several large general park areas have been acquired. The playgrounds listed are only a part of the following new parks: Williamsbridge Reservoir, Fort Schuyler, Randall's Island, Fort Tryon, Juniper Valley, Red Hook, Neptune Avenue at Coney Island, and

Flushing Meadows. Large areas for general recreation also have been acquired in Queens at Baisley Pond and at Brookville.

Bryant Park in Manhattan and St. James Park in the Bronx have been completely rebuilt. Fourteen parks are being entirely reconstructed, and 50 more general park areas will be rebuilt or renovated. The zoos in Central and Prospect Parks have been rebuilt and expanded, and a new zoo is being built in Barrett Park, Staten Island. Ten new outdoor swimming pools have been added to the two old and inadequate pools in the park system. They are being built entirely with relief funds and are scheduled to open in July, 1936.

One hundred special park policemen were appointed to help enforce park ordinances. There are 71,000 emergency relief workers engaged in the park system and there has been an expenditure of relief funds averaging $3,000,000 per month.

CITY HOUSING

First Houses.—On Dec. 3, 1935 apartments in First Houses, the first municipal housing project in the United States, were opened for occupancy at an average monthly rental of $6.05 per room. This project, which was made possible by a special appropriation from the Federal Emergency Relief Administration, replaces a half block of old law tenements in the Lower East Side at Avenue A and Third Street and contains modern apartments. While the Relief Administration supplied the funds for construction and the labor, the negotiations for the purchase of the property, the architectural planning, and the management were handled by the New York City Housing Authority.

WPA Construction.—The city has acquired land by condemnation proceedings for two other sites, on which the Housing Division of the Public Works Administration will erect housing projects involving a total expenditure of more than $17,000,000. These sites consist of 12 blocks in the Williamsburg section of Brooklyn, bounded by Bushwick Avenue, Scholes, Leonard and Maujer Streets, and 8.02 acres in Harlem, extending from Macombs Place, between 151st and 153rd Streets, to the Harlem River. This land has been sold to the National Government, the architects' plans have been completed and approved, and foundation contracts have been let.

Procedure for Fire and Habitation Hazards.—In order to facilitate the enforcement of the laws relating to the removal of fire hazards and the vacation of buildings unfit for human habitation, a new procedure was adopted the first part of the year which substituted public hearings before the Commissioner of the Tenement House Department for trial in Magistrates' Courts. During the first 11 months of the year, 5,283 buildings were provided with legal fire-escapes, as compared with 3,288 in 1934 and 793 in 1933; 4,729 cellar ceilings were fire-retarded, as compared with 2,629 in 1934 and 196 in 1933; and 919 vacation actions were instituted, as compared with 367 in 1934 and 39 in 1933.

To effect the elimination or further renovation of a substantial number of the 66,000 old-law tenements in the city which remain occupied, the Multiple Dwelling Law was amended by the Legislature in the 1935 session to require, after Jan. 1, 1936, that the public halls and stairs of such buildings, four stories or more in height, shall be fire-retarded and that a separate toilet for each family shall be provided. Also, the use of certain rooms without windows is prohibited.

SANITATION

Organization.—The Department of Sanitation has been reorganized along functional lines on a city-wide basis, into eight divisions and services, Engineering, Street Cleaning and Waste Collection, Administration, Trials and Legal Affairs, Finance and Supply, Inspection, Sanitary Educational Service, and Welfare and Recreational Service. In charge of these divisions and services are five deputy commissioners, an assistant to the commissioner, a director of Sanitary Education and a secretary of the Department, who, together with the commissioner, constitute the nine officials of the Department who are exempt from Civil Service examinations. The other 14,000 members of the Department are under civil service rules.

Budget Reduction.—The 1935 budget of the Department of some $28,000,000 was nearly $11,000,000 less than the budget for 1932. The cost of removing snow during the winter of 1933-34 was $.443 a cubic yard, while the cost for the winter of 1934-35 was $.385. The cost of disposal of ashes, garbage, and rubbish in Brooklyn, now under city operation, is about $2,500,000 less than it was in 1932 when it was let out to a private contractor; the cost in Richmond was 2.17 a cubic yard in 1933 and $1.19 a cubic yard in 1935. By completing the alterations on two incinerators in Manhattan, and by re-designing and altering three in Brooklyn and two in Queens, the burning capacity has been increased 41 per cent; and in the case of the Manhattan incinerators the cost of operations was reduced about $200,000 a year.

Construction Projects.—Approximately $30,000,000 have been allotted to the Department from the PWA and the WPA for the construction of incinerators, sewage treatment works, and for the development of a number of WPA construction projects. Approximately 46 sewage plants are planned, two of which are under construction and two are being designed. Two new incinerators are under construction; two old ones are being rebuilt, and alterations have been completed in the seven existing ones, thereby greatly increasing their capacity.

HOSPITALS

Hospital Council.—The Department is taking a leading part in the formation of the Hospital Council of the City of New York, representing both municipal and voluntary hospitals, which has been charged by the Mayor with the responsibility of developing a coordinated hospital program for the city.

Beds.—There are 18,986 beds in the city hospital system, one of the most comprehensive in the world. Kings County Hospital, with a capacity of 3,160 beds, is the largest single unit; Richmond Borough Hospital, with 16 beds, is the smallest.

Building Program.—With the aid of PWA funds, totaling more than $4,000,000, an extensive building program is in progress. Bellevue Hospital, with 2,333 beds, has under construction a new tuberculosis unit at an approximate cost of $4,000,000; a Cancer Institute with 100 beds, is being built at Kings County Hospital; a Children's Building, to add 250 beds to its present capacity of 1,446 beds, has been started at Sea View Hospital, Staten Island; a new women's building at Harlem Hospital, scheduled for opening in January, 1936, will increase the capacity of this hospital from 325 to about 700 beds; Lincoln Hospital, with 265 beds, will have about 600 beds in 1936; Queens General Hospital, with 582 beds, was opened during the year; Greenpoint Hospital, Brooklyn, is adding a new building; a model hospital, with more than 1500 beds, for chronic diseases is planned for Welfare Island; and nurses' homes have been equipped and occupied at Greenpoint, Harlem, Kings County, and Sea View Hospitals.

WORK OF THE DEPARTMENT OF CORRECTION

According to Commissioner Austin MacCormick, the most significant step taken by the Department of Correction during the year was the occupancy of the new Penitentiary on Riker's Island in spite of delays in securing equipment, and the beginning of the demolition of the old Penitentiary on Welfare Island. The population of the over-crowded Correction Hospital was substantially reduced and the medical service was improved by the addition of a large corps of PWA nurses. The most striking changes, however, were made at the New York City Reformatory at New Hampton, where a well-rounded reformatory program has been established under Superintendent Frederick Sacher, appointed early in the year. The setting up of a comprehensive PWA project operating throughout the Department made possible the expansion and improvement of educational and library services and the establishment of a social service program. Improvements have been made in all institution plants through grants of Federal funds. The Commissioner reports that the discipline and morale of both the inmates and the departmental personnel have improved throughout the year, and that there have been no disorders.

PUBLIC SAFETY

Fire Department.—Some important changes were introduced in the Fire Department during the year. All rookie firemen appointed to the Department are now required to attend the School of Instruction for three months, instead of the 30-day period formerly required, to receive instruction in all phases of fire fighting. In addition to this training at the School, they are now assigned to regular companies, given service with a Hook and Ladder Company, an Engine Company, a Fire Boat, a Rescue Squad, and others, with the result that at the end of the probationary period they have served in practically every branch of the Department and have a fundamental knowledge of its activities.

In accordance with Mayor La Guardia's policy of building up a career group, ten or twelve firemen will be selected each year for special engineering training in the city colleges. They will eventually supervise maintenance of equipment, draw up specifications, and see that the department is kept abreast of the latest developments in fire fighting apparatus.

The Police Department at present is operating with 1,200 less than the 19,331 quota fixed in 1931. No replacements were made within the Department during 1935. Plans have been made to appoint 600 additional patrolmen for the coming year, 397 of whom will be replacements for retirements and deaths, leaving the total number on the force still 800 less than the quota allowed. Provision could not be made at this time in the city's budget for the full quota.

CIVIL SERVICE

With a constantly increasing number of applicants, particularly augmented during the depression by reason of prevalent unemployment, the Civil Service Commission has been able to raise the educational and experience prerequisites for entrance into the civil service far above the standards of a decade ago. Yet because of the public demand for opportunity for all citizens to compete in the examinations, the examining task grows heavier rather than lighter. There were over 20,000 applicants for the last examination for patrolmen, of which 12,180 were examined; 18,000 applicants for the last first grade clerical examination, of which 12,074 were examined; and 15,000 applicants for fireman, of which 7,542 were examined. In the last two years the number of exemptions has been decreased sharply, and changes in the service rating and promotion systems have been made to increase the nonpartisan nature and career opportunity of the service. Beginnings were also made in cooperation with colleges in the study of practical municipal problems.

CHARTER REVISION

The Charter Revision Commission was appointed by Mayor La Guardia on June 12. Its membership consists of Thomas D. Thacher, chairman; former Supreme Court Justice Joseph M. Proskauer; Thomas I. Parkinson, president of the Equitable Life Assurance Society; Charles Evans Hughes, Jr., former Solicitor General of the United States; S. John Block, Socialist lawyer, former Controller Joseph D. McGoldrick; Charles G. Meyer, Queens real estate developer; Mrs. William P. Earle, Jr., a former president of the League of Women Voters; and Frederick L. Hackenburg, named by the Mayor since that time as a Justice of the Court of Special Sessions. Professor Joseph N. Chamberlain of Columbia University is counsel, and among his associates are Assemblyman Abbot Low Moffat and Lawrence A. Tanzer of the Citizens Union.

For many months, with a short interlude, the Commission has been continuously engaged in an exhaustive study of the existing governmental structure of the City of New York. The officials of the city, including not only the elected officers and departmental heads, but many civil servants who have had long and intimate experience in dealing with the daily problems of government, have been heard in bi-weekly hearings regularly attended by the members of the Commission on two days of each week. Many other persons who by reason of study and experience have expert opinions on these problems have also been heard. As a result of its studies, the Commission is now formulating the principles upon which it will draft and propose to the electorate a charter adapted to the requirements of the city.

WORLD'S FAIR FOR 1939

Plans are in progress for a World's Fair to commemorate the 150th anniversary of the establishment of the United States Government and the inauguration in New York of George Washington as the first President. It is expected that the Fair will open on April 30, 1939 at Flushing Meadows Park in Queens. The upper branch of the Municipal Assembly has pledged the city's cooperation and has approved an expenditure of $200,000 for preliminary work. A considerable part of the land to be loaned to the exposition corporation is already owned by the city and the remainder will be acquired for a municipal park. It is estimated that, including the expenditures of the World's Fair Corporation, the exhibitors and concessionaires, about $40,000,000 will be invested in the project. A nonprofit company has been incorporated with George McAneny as president. As state as well as Federal cooperation has been promised, the necessary authorizations and powers are expected to be granted this Corporation at the January, 1936 meeting of the Legislature.

FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

By Clinton Rogers Woodruff

Director of Public Welfare, Philadelphia

U. S. CONFERENCE OF MAYORS

Most of the activities of the United States Conference of Mayors during 1935 have been directed toward the Federal relief program. Included in this was the adoption by the President in his address to the Congress Jan. 4, 1935 of the principle advocated by the Conference during 1934, that the Federal financial responsibility for the so-called group on Federal relief, and state and city responsibility for the so-called unemployable group.

Under the public works section of the $4,800,000,000 program, the Conference proposed a liberalization of the terms under which municipalities received loans and grants from the Federal government for public works projects. By executive order this liberalization was authorized, increasing the grant from 30% to 45%.

The President by his designation of an official representative of the Conference is the first official recognition of the cities of the country in the working out of any Federal program. Quite logically the question of relief received a large measure of attention, and the Conference authorized the executive committee to cooperate with Congress to exert every effort to continue President Roosevelt's policy of Federal aid for relief purposes.

Daniel W. Hoane, Socialist mayor of Milwaukee, was re-elected Honorary President and Mayor LaGuardia of New York President of the Conference.

PUBLIC RELIEF WORKS

President Roosevelt on July 3 issued a statement outlining the distinction between PWA and WPA projects. Applications are to be submitted to the Federal Emergency Administration of Public Works for (1) Works Projects: construction projects (other than repair and maintenance projects) where the aggregate cost upon completion is estimated to be more than $25,000. Examples of such projects are airport buildings, utility plants and distribution systems, wharves, highways, bridges, tunnels, subways, viaducts, hospitals, dispensaries, markets, warehouses, sanitary sewer systems, garbage and rubbish disposal plants, public buildings, sewage disposal plants, storm sewer systems, and other similar projects. (2) Slum Clearance and Low-Cost Housing Projects: projects of a type heretofore carried on by the Housing Division of the Federal Emergency Administration of Public Works.

Applications are to be submitted to the Works Progress Administration for: (1) Non-construction Projects: projects of a type designed to assure maximum employment principally to professional, clerical, and white collar classes; (2) Small Works Projects: projects of any type where the aggregate cost upon completion is estimated to be $25,000 or less; (3) Other Works Projects: all other projects, regardless of cost, except those which go to PWA. Examples of such projects are recreational facilities, parks, playgrounds, small dams, ditches, street repairs, demolition, malaria control, pest extermination, airports, sidewalks, gutters and curbs, levee work, landscaping, grading, farm to market roads, reservoirs, swimming pools, and similar projects.

Applications rejected by the Federal Emergency Administration of Public Works shall be submitted immediately to the Works Progress Administration. All application for loans shall be submitted to the Federal Emergency Administration of Public Works.

CITIES AND THE DEPRESSION

During the depth of the depression in 1933, when the hue and cry was "the cost of government must be reduced," the International City Managers' Association published a pamphlet, *How Cities Can Cut Costs*, setting forth practical suggestions for constructive economy in local government. Now that an upturn is apparent, this organization has sought to appraise the effect of the depression on municipal activities in a pamphlet *What the Depression Has Done to Cities*, published July, 1935. In this publication the Association summarized the benefits that had accrued, as follows:

1. They have cut unit costs by exercising their ingenuity and by seeking out the best methods and practices in other cities.
2. They have become accustomed to adjusting their procedures, organization, and programs to rapidly changing conditions, thereby securing dynamic rather than static government.
3. They have come to realize, through the debates over budget cuts, as they never did before, how indispensable to community welfare are their services and activities and how loath are their citizens to give them up.
4. They have been compelled to examine critically an inherited, antiquated revenue structure; and in many cases, also, to question the feasibility of the existing administrative areas and other political arrangements.
5. They have learned to cooperate with other cities in attacking common problems and also with other levels of government, realizing that the important thing is the substantive service to the citizen, rather than the agency that furnishes it.
6. They have seen the independent spirit of decentralized city boards and commissions minimized, in the realization that the departmental troubles and interests are after all common to the city as a whole.
7. They broadened their outlook, being in many cases compelled to admit their prosperity policies were shortsighted, both for what they did and for what they neglected to do; and they have become vitally interested in city planning in the deeper sense.
8. They face the future with seriousness and determination, knowing

the path will not be easy and that the ''city'' must muster all its civic resources to survive and to prosper.

CITY MANAGER PLAN

An encouraging sign of renewed citizen vigor is the record of adoptions of the city manager plan which jumped from 443 in 1934 to 460 this year. This new spirit constitutes perhaps a renaissance of hope rather than a renewal of interest. For the last three years there has been noticeable throughout the country an awakening interest in the program of the National Municipal League. In the depth of the depression, however, with cities defaulting on their bonds and the services of local government being abandoned or curtailed at every hand as a result of hysterical tax reduction campaigns, the important issue was not reform but preservation of local government. That fight should by now be over. The development in many states of intensive campaigns sponsored by real estate interests for tax limitation laws, however, has made it necessary for citizens to continue resistance to the threat of crippled local government. The experience of local government in states which have adopted tax limitation laws speaks for itself; it is a story of municipal chaos, of ruined credit and of dismantled services. Fortunately, the majority of states have been able to withstand the pressure of efforts to put into effect arbitrary overall tax limitation laws, and in these states the focus of attention has turned toward permanent improvement of structure and administration.

POLICE TRAINING

Perhaps the most important contribution in police administration during the current year is the emphasis that has been placed upon police training in several sections of this country.

Through an arrangement with the University of Wichita, O. W. Wilson, the Chief of Police at that city, has accepted students from the University on a cadet basis. The University gives the cadets credit for the work which they do for the Police Department. Under the plan junior students 21 years of age who have signified their intention of entering the police service and who have passed the tests of the Wichita Police Department will be made police cadets during the last two years of their college course. They will carry 12 hours of college work, majoring in political science, and will work as policemen half time. For four hours duty a day, the police cadets will receive $50 per month. Students who complete the course will be given police certificates and efforts will be made to place them with police departments in the state and elsewhere.

In Michigan, Commissioner Olander of the State Police has arranged with the University of Michigan that students who are preparing for the police service receive the first three years and a half of their work at the University of Michigan and the last year and a half of their training in the barracks of the Michigan State Police.

At the University of Indiana, an Institute of Criminal Law and Criminology has been established. Along with their plans for the training of police officials for the police service, the Institute will devote part of its time to research in the police field, and assist the coordination of police activities in the state. It will also supply general information of a technical nature to the various agencies that have to do with the administration of law.

The State College at San José, California, has reorganized its curriculum and now offers an intensive course in police training for men who are planning to enter the service. All of the instructors are men from the police service or men who have had previous experience in police departments.

Establishment of this kind of training to improve police standards is in line with the summer school of 12 weeks arranged for local and state police in the service in Washington, D. C., under sponsorship of the Bureau of Investigation, Department of Justice.

On the Pacific Coast police training methods grow steadily. The State Teachers College at San José has a rather comprehensive two-years course in a going condition. This is a course for patrolmen. At the University of California a course has been arranged for certain graduates. The course in criminology is in the biochemical department.

Over the period of the past several months continued emphasis and the focusing of public attention on crime, criminals, and methods of combatting crime has been accompanied by rapid advancements in police training technique. The public is becoming insistent on better and more efficient policing, especially in large urban centers. Police administrators, on the other hand, are searching for more and more ways and means of improving the efficiency of their law enforcing departments.

Within the last year, after several years of experimentation, the San José State College, San José, California, has established a permanent two-year course in police education. The object of the school is to provide a two-year vocational training for students interested in the science of police administration as a life work. The school does not contemplate developing specialists in the various fields of administration, but is designed to train the student so that he may enter the service of a police department as a well qualified law enforcement officer.

In midsummer the United States Bureau of Investigation began a three months' training course for 21 police officers from 21 different police departments throughout the United States. The Bureau of Investigation has urged interstate cooperation as the best means of combatting crime. Several national conferences have been held at which interstate cooperation has been repeatedly urged. The training school is the first step in developing methods of cooperation between local police departments and the Bureau of Investigation.

FINGERPRINTS FOR IDENTIFICATION OF CITIZENS

A number of cities and the Federal Bureau of Investigations are accepting the fingerprints of citizens for inclusion in non-criminal personal identification files. Among these cities are New York, Newark, Albany, Rochester, Philadelphia, Pittsburgh, Detroit, Fort Worth, Salt Lake City, Los Angeles and San Diego. New York newspapers recently stated that residents were invited to call at their nearest police station and have their fingerprints made, so that in the event of disappearance the police will have a means of identification. For those who respond, two impressions are made, and both may be taken home or one may be sent to headquarters file. This file is separate from the criminal-record file, where 1,400,000 fingerprints have been accumulated since 1906. Voluntary prints have been collected here since 1926. The Federal Bureau of Investigation furnishes blank cards, to citizens requesting them. J. Edgar Hoover, head of the Bureau, said: "It is my belief that the citizen is entitled to the protection afforded by having available a positive means of identification in the event he is involved in illness or accident which may incapacitate him. Under ordinary police fingerprint identification filing systems, the advantage of such positive identification is available only to persons with prior criminal records."

During the fiscal year ending June 30, 1934, the Bureau received 558,000 fingerprint cards, of which 47 per cent were identified with prior records comprising 4,642,000 cards. Contributing agencies here and abroad number 7,135.

TRAFFIC CONTROL

In Detroit the Police Department is meeting with considerable success in controlling traffic through the use of so-called "sound" vehicles, and has decided that if amplifiers were placed at heavy traffic intersections during the Christmas holidays, this might have considerable effect in controlling pedestrians and thereby facilitate the movement of traffic. As an experiment, a sound-car was placed at an important business intersection and tried out. The pedestrians responded to the pleas of the operator in obeying the signal lights. Arrangements were then made for the use of amplifiers for the two weeks prior to Christmas, and on Dec. 15, 1934, their trained police officers were placed at the microphone; immediately there was a favorable response on the part of pedestrians to the requests of the officers to cross with the lights. Only occasionally did some person disobey the request of the officer, usually someone of foreign extraction who did not understand the English language.

In former years it was necessary for the Police Department to maintain four mounted officers at the principal intersections to control pedestrians, and even this did not exactly prove successful, for some 200 persons persisted in going around the horses. But when the same people attempted to cross the intersection and their disobedience was called for all to observe, they felt different and stepped back to the curb. The pedestrians obeyed the speakers so well that it was not necessary to increase the number of traffic officers at these intersections.

INTERNATIONAL POLICE CONVENTION

Over three hundred chiefs of police gathered in Atlantic City on July 8 for the 42nd annual convention of the International Association of Chiefs of Police. Attorney General Cummings outlined the proposed functions of the Federal Bureau of Crime Prevention which he had asked Congress to create. He also told of plans to open Federal training facilities to state and local officials. Bruce Smith stressed the need for a consolidation of police units and recommended certain steps to be taken by the Federal and state governments. The Association radio committee presented a plan for inter-city radio communication, which the Association recommended to the Federal Communications Commission.

Resolutions were passed endorsing (1) the new training program of the United States Department of Justice; (2) the parole system, but urging its careful application; (3) the efforts of bar associations to purge the legal profession of unethical and undesirable members, expressing appreciation to the motion picture industry for the efforts to glorify the peace officer rather than the fugitive from justice; and recommending (1) state legislation requiring the immediate forwarding of fingerprints to the United States Bureau of Investigation, and (2) the establishment of state associations of peace officers in every state. Chief Andrew J. Kavanaugh of Miami, Florida, was elected president for the coming year.

POLICE ADMINISTRATION

Among the high spots in police administration during the past year are to be mentioned:—1. Establishment of a state department of justice in California which possesses at least rudimentary powers of supervision over local police administration; and 2. The work of the Federal Bureau of Investigation in the United States Department of Justice, with particular reference to the establishment of a national training school for local police, and the Bureau's outstanding record of apprehension and convictions in racketeering and kidnapping cases; the establishment of the Association of State Police Executives. This new association brings together into one group the heads of state police forces throughout the country. Both national and regional meetings are also held; adoption of two-way radio transmission by a number of the smaller police forces; the substantial progress made by Commissioner James P. Allman in restoring the morale, effectiveness, and equipment of the Chicago police department.

FIRE PREVENTION

Interest in training schools for firemen reached a new high in the past year. Schools were held at over 300 centers in 40 states with a total attendance of approximately 25,000 firemen. A decided trend was noticed towards the holding of a larger number of zone and regional schools throughout a state instead of holding one or two state-wide schools. This was largely due to the determination to reach firemen in the smaller communities (especially the volunteer firemen) that have heretofore received but little training in fire prevention and fire protection. Schools were sponsored by state and county firemen's and chiefs' associations, state fire marshals, insurance inspection departments, state universities, Federal and state departments of vocational education, state leagues of municipalities, and other interested organizations.

Mayor LaGuardia of New York City picked ten men interested in fire prevention to take a four-year course in engineering at the city's expense to qualify them for technical positions in the fire department. The many technical aspects of a fire department require specially trained men to administer them effectively. The modern fire department is becoming more of a scientific municipal agency of fire prevention and less of a purely fire fighting organization.

The continued rapid growth of the Volunteer Firemen's Section of the National Fire Protection Association was an outstanding accomplishment in fire prevention in the past year. Through this their national professional organization volunteer firemen who protect nearly one-half the population of the United States have access to the best technical and educational information available. In addition to the membership of 9,000 men 12,000 other volunteer fire companies or departments are contacted regularly. The importance of this field was realized in a survey made this last year which indicated that there was a total of about four times as many pieces of motor fire apparatus in the smaller towns served by volunteer fire departments as in all the larger city departments having paid men.

A significant result of all fire prevention and fire protection efforts is the downward trend of the fire loss. Estimates by the National Board of Fire Underwriters show that the fire loss for 1934 was $262,848,122, which is the lowest figure since 1916. The Canadian fire loss was $25,437,840, which is the lowest figure for the past ten years.

Because of the direct relationship between the efforts being made by the Housing Administration to stimulate property modernization and improved construction practice and the reduction of fire hazard, the Federal Administration placed its full force behind National Fire Prevention Week, October 6-12. Fire hazard reduction achieved through modernization is obvious. High standards of construction required under the Mutual Mortgage Insurance Plan (long-term repayment) automatically call for building methods and materials specifications which tend to reduce to a minimum eventual fire losses. In addition, the Washington office cooperated with business, industrial and civic organizations in stimulating general attention to the dangers from fire loss and by pointing out the advantages to be derived by property owners from the provisions of the National Housing Act. A 4-page leaflet, outlining the relation of the Federal Housing Administration's program to the fire-hazard reduction was made available to the general public. The leaflet also included a brief explanation of the Modernization Credit Plan and the Mutual Mortgage Insurance Plan. Evidence of interest in this publication was shown by orders in excess of 1,500,000 which were received before the leaflet went to press.

One of the outstanding developments in the field of fire prevention during the past year was the plan advocated by the National Board of Fire Underwriters in cooperation with the National Association of Public School Business Officials for periodic inspections of all school properties by public school authorities in conjunction with members of the municipal fire department. This work was undertaken a year ago following the adoption by the Public School Business Officials of a comprehensive inspection blank prepared by this office. The National Board of Fire Underwriters addressed communications to the school authorities and chiefs and fire department officials in more than 1,700 municipalities of 5,000 population and over, county and state superintendents of education, parochial school officials, women's clubs, parent-teacher associations and inspection boards and bureaus. As a result, this plan was adopted and carried out conscientiously in more than 600 communities. This year the number was materially increased.

There has been a pronounced increase in the establishment of fire prevention bureaus in the fire departments of the more progressive cities whereby continuous inspections are made of buildings of all descriptions to ascertain and remove fire hazards. There has also been an intensified interest on the part of volunteer fire departments in fire prevention work, not only in the education of the public in general but in making regular inspections of both industrial and business properties.

NOISE ABATEMENT

Dr. Orestes H. Caldwell, editor of *Electronics* and of *Radio Retailing*, and a director of the new American League for Noise Abatement is authority for the statement that the present movement for noise abatement in offices, public places, factories and homes is creating new models and new products that are replacing outmoded equipment and so creating new payrolls and helping us out of the depression. Present street noises and transportation racket will be unknown to the Philadelphians and New Yorkers of 100 years from now, Dr. Caldwell predicted, and will be regarded as amazing curiosities of a barbarous past.

That posterity of the noiseless future will be able to get some idea of the continuous torture undergone by their city-dwelling forefathers, accurate recordings have been made of traffic sounds, elevated-train rattles, newsboys' shouts, automobile honks, and shoe-leather squeaks. These sound records transferred to an imperishable medium, and along with instructions etched on glass by hydrofluoric acid, have been sealed in a bronze casket for preservation.

Already street cars, buses and railroad trains are being silenced. Rubber tires are saving nerves, and the next step may be rubber-paved streets. With the new synthetic rubbers, here is a new volume market for American agriculture, to produce the raw materials in sufficient quantities. Acoustic materials are reducing noise and reverberation in building interiors, so that now offices, restaurants and public places can be silenced at will. Makers of office machines, typewriters, etc., are directing every effort toward silent operation, realizing that the public discriminates in favor of noiselessness, and that equipment which is comparatively new in other respects can be effectively made obsolete when a silent substitute comes along. Silencing of appliances for the home offers another large field for improvement.

Utica, N. Y., is the most recent city to make it an offense to create unnecessary noises in public streets. All offenses against the new law are punishable by a fine of from $5 to $50. The measure is designed to prevent the use of loudspeakers and radio apparatus for street advertising, and provides for quiet zones within 150 feet of hospitals and schools. Albany, N. Y., has passed a similar ordinance which bans the tuning of radios for volume instead of distance and puts the law on motorists who honk for the fun of it. These two American cities are following the example of London, England, whose Council six months ago hushed horns by charging motorists $10 a hoot, if they gave it within five miles of Charing Cross between the hours of 11:30 P.M. and 7 A.M.

ANNUAL REPORTS TO TAXPAYERS

According to Clarence E. Ridley, Executive Director, International City Manager's Association, annual reports to taxpayers, on the order of annual reports by corporations to stockholders, are as yet made by only a minority of cities. Included among the cities publishing annual reports are many known for quality government. Each year Mr. Ridley reviews and ranks the municipal reports of the year. This year Berkeley, Calif. got first place; Cincinnati, second; Wichita, third. Reports are graded by a system which awards 5 points on each of 20 counts. Milwaukee, ranked as No. 10, got a zero on the count of "Length." This report is 165 pages long, where 50 pages is set down by Mr. Ridley as the maximum length. He contends that longer reports are not so likely to be read.

MAYORALTY ELECTION IN CHICAGO

Two years ago Franklin D. Roosevelt landed in Florida from a fishing trip, and Mayor Anton Joseph Cermak of Chicago was fatally shot while standing by the running board of the President-elect's automobile. Edward Joseph Kelly was appointed by Chicago's City Council to fill Cermak's unexpired term. In April, 1935, Mayor Kelly, standing for the first time for popular election, polled more votes than any other Mayor of any city except New York ever polled. Mayor Kelly's vote not only reached 798,000; it was 75% of the total cast, giving him a 544,000 majority over his Republican and Independent opponents. Furthermore he carried every one of Chicago's 50 wards.

TENURE OF CITY OFFICIALS

An analysis of the tenure of office of 11,334 municipal officials in cities of over 10,000, prepared by Gerald M. Shaw, assistant of Ashland, Ky., based on data reported in *The Municipal Year Book, 1935*, reveals some interesting facts and trends. The positions included are those of mayor, chief finance officer, treasurer, purchasing agent, assessor, attorney, city clerk, city engineer, fire chief, police chief, health officer, welfare director, parks and recreation director, public works director, water works superintendent, librarian, and school superintendent. The tenure of office as discussed here includes only length of service of incumbents in their present positions.

Of the 960 cities of over 10,000 population, 933 reported tenure, but many failed to report for all 17 positions. Out of a possible total of 15,861 positions (17 positions in 933 cities), replies were received pertaining to 11,334, leaving 4,527 positions which, for the most part, were omitted because the position is not included in the organization of the city, the function is performed by some other governmental unit, or the length of service was not reported.

With regard to the form of government in the 933 cities, 57 per cent operate under the mayor-council plan, 19.9 per cent under the commission form, 19.5 per cent have the council-manager plan, and 3.6 per cent the town meeting plan. Two-thirds of the 933 cities are between 10,000 and 30,000; slightly less than one-fourth between 30,000 and 100,000; and about one-tenth over 100,000 population.

Of the 11,334 officials included in this analysis, 449 or approximately 4 per cent have been in office less than six months. In actual members, the range is from 8 librarians to 53 mayors. This group of 449 officials is not included because the inquiry sent to the cities requested number of years' service to the nearest year; therefore, those with more than six-months' service are classed as serving one year. Of the 670 librarians, only eight have served less than six months, while this position shows the highest average tenure of office (11.6 years). The mayors, with most officials in the short-term group (53), had the lowest average tenure of office (3.8 years).

Classified according to form of government the results show that, with the exception of the town meeting group, the longest average tenure for all positions is in council-manager cities, which may be due to the emphasis placed on professionalized service within the municipal organization, as well as to the larger number of officials who are appointed rather than elected. The exceptionally long tenure in town meeting cities may be due to a regional factor, since all town meeting cities except one in New Jersey are located in New England. Also there is the possibility of an existing tendency to retain municipal personnel in this type of government whose origin antedates even the Federal Government and also the mayor-council system in American cities.

MUNICIPAL SALARIES

According to the American Municipal Association and the United States Conference of Mayors, the salaries and wages of city employees are getting back to normal. Results of the survey, show that 12 cities, all of which are 50,000 or more in population, have fully restored pay cuts made in 1930 or later. Four made full restoration within six months, and two others—East St. Louis and Boston—made full restoration on Jan. 1. Oklahoma City expects to give out the normal-sized pay checks by the end of 1935. In 44 cities pay cuts have been or will shortly be restored in part. These cities include Chicago, Detroit, St. Louis, Baltimore, San Francisco and Cincinnati. The partial restorations range from one-tenth to two-thirds of the original amounts cut. Since 1935 budgets are still pending in a number of these cities, it is possible that others may be added.

Sixty-five of the 126 cities have as yet made no move to restore salary cuts, the report shows. Six cities made no pay cuts at all during the depression. These were Albany, N. Y., Reading, Pa., Wilmington, Del., Wilkes-Barre, Pa., Oak Park, Ill., and York, Pa. ''Restoration of pay cuts by cities is generally considered as an evidence of recovery,'' according to Paul V. Betters, Executive Director of the associations. ''The replies from the cities questioned indicate that the movement is gaining momentum—which should be an especially favorable sign.''

EXEMPTION FROM MANUFACTURERS' TAX

From Oct. 1, all purchases made by cities for their exclusive use are to be exempt from the manufacturers' excise tax provisions of the Federal Revenue Act. This was pointed out in a recent letter sent to mayors and other city officials by Paul V. Betters, Executive Director of the U. S. Conference of Mayors and the American Municipal Association. The two associations proposed and sponsored the amendment, which Mr. Betters finds ''one of the most important pieces of legislation passed at the last session of Congress so far as cities are concerned.''

In the past, sales of certain commodities to cities and states were exempt from the manufacturers' excise tax only in those cases where the articles were to be used in connection with ''an essential governmental function.'' The Bureau of Internal Revenue ruled that such municipal functions as the operation of parks and playgrounds, transportation facilities such as railways, bus lines, airports, wharves, docks, and warehouses, and public utilities such as water, light, heat and power and even cemeteries, were non-essential functions. This meant that purchases for these departments were taxable, whereas those made for police and fire departments, and the like, were exempt. ''This confusing situation,'' Mr. Betters says, ''has now been clarified so that there is no longer any distinction between 'essential' and 'non-essential' governmental functions. The exemption does not apply, however, to city purchases for the personal use of employees or for contractors doing city work.''

Items formerly taxable under Title IV of the Revenue Act which will now be tax-free for all municipal services, include gasoline and lubricating oils, tires and tubes, autos and auto trucks, auto accessories, radios, mechanical refrigerators, sporting goods, cameras, toilet preparations, chewing gum and matches. Mr. Betters points out that the present amendment places no limitation on the number of sales intervening between the manufacturer and the purchaser, credits or refunds being specifically provided for. Previously, no exemption was allowed where there was more than one intervening sale between the manufacturer and the municipality.

HOME RULE IN LOUISIANA

In three special sessions the Louisiana State legislature passed a number of laws which further subjugated cities to state control.

New Orleans was the object of particular attention. The city police and fire boards were abolished, and in their stead were created two state boards. Furthermore, mandatory appropriations from the tax funds of the city for these departments exceed previous appropriations in pre-depression days. The new police and fire departments are authorized to borrow in anticipation of taxes through the state board of liquidation. All property taxes formerly collected by the city are now to be collected by the state tax collector, and the state will withhold 2 per cent for collection costs. The state supervisor of public accounts will now collect the business license taxes, the liquor license taxes, and one of the two cents gasoline tax of the parish of Orleans. The gasoline tax revenues, minus collection costs, will be returned to the city for street purposes, but city revenues from the business and liquor license taxes will be used for state purposes. The supervision of dance halls is taken from the city and given to the state-controlled New Orleans police board. Control over the assistants to the New Orleans' district attorney is given to the state attorney general, and the city is required to appropriate not less than $45,000 a year for these employees—about $8,000 more than the present appropriation. Control over traffic enforcement and the granting of drivers' licenses is taken from the city council and vested in the new police department, a state agency. Final authority for the sale or discontinuance of any public market in the city is placed in the state bond and tax board. The governor now appoints two of the three members of the board of supervisors of elections in New Orleans; he formerly appointed one. This board selects the election commissioners, who in turn select the watchers.

MUNICIPAL RADIO

The number of frequencies available for radio transmission for both states and municipalities in the whole of North America is small, so the Federal Communications Commission decided that the entire country should be divided into zones and that all cities within a zone should use the same frequency. In this way it is possible to duplicate frequencies in distant zones and at the same time provide for an efficient system of operation within each zone. There is a belief, says the Commission, on the part of some police administrations that a separate frequency should be assigned to each municipality. It is pointed out that with only a few frequencies available, such a system not only would be impractical but could not possibly be as efficient as the zone system of allocation. For example, in one metropolitan area there are 19 cities located in 80 districts, nearly all of which are within 20 miles of the center of the district. Therefore, if a different frequency were assigned to each municipality, the adjacent police departments would lose the advantage of being notified of crimes committed in neighboring cities, with a consequent delay in the apprehension of criminals who succeeded in making their escape from one city to another.

The metropolitan area type of service may be established in several ways. All the cities within an area may enter into contracts providing for mutual use and support of one radio station; the various cities could enter into a partnership and designate one licensee who would be responsible for the operation of as many radio stations as may be required to serve properly the entire area; or two or more of the cities may each establish an independent station to give primary service to specific portions of the metropolitan area and enter into an agreement as to the rendering of cooperative service over the whole area and as to priority in the handling of calls originating in the various districts.

MUNICIPAL SLAUGHTER HOUSES

Cities are contemplating the desirability of establishing municipally owned slaughterhouses in order to market locally the livestock raised in the vicinity of the city. The saving is in shipping costs of the cattle and in freight and express costs on the meats sent back to the city. Albany, Ga., has built an abattoir. Winston-Salem and Memphis have financed one each. Charlotte, N. C., is discussing the proposition, and Hickory, N. C., also is interested. It is, of course, clear that this is not an amateur's business, but one to be carefully studied before deciding to go into it.

AMERICAN PLANNING AND CIVIC ASSOCIATION

With Frederic A. Delano, of Washington, D.C., as President; Harold S. Buttenheim, of New York, Horace M.

Albright, of New York, and Richard Lieber, of Indianapolis, as Vice-Presidents; George W. White, of Washington, D.C., Treasurer; Harlean James, Executive Secretary, and Flavel Shurtleff, Counsel, the American Planning and Civic Association was organized in Washington on July 1 as a result of a merger between the American Civic Association and the National Conference on City Planning. The purposes of the new organization will include "the promotion of public understanding and support of national, regional, state and local planning for the best use of urban and rural land, water, and other natural resources; the advancing of higher ideals of civic life and beauty in America; and the safeguarding and development for the largest good to the people of natural wonders and scenic possessions and of national and other parks and recreational facilities." Annual meetings of the new association will be held jointly with the American City Planning Institute and the American Society of Planning Officials.

BILL BOARDS

The famous Massachusetts billboard cases, a controversy of national significance since 1925, were finally decided in a decision handed down by the Supreme Court on Jan. 10, 1935. The cases first arose in 1925 but were not decided. Instead they were placed before a special master before whom they were given about five years of exhaustive study and consideration, and during which time a huge mass of testimony was taken. The master's report, a record containing more than 9,000 typewritten pages, upheld the right of the state, through its agencies, to regulate and restrict outdoor advertising. Late in 1933 the cases went to the state Supreme Court where they remained until the decision this year.

In 1918 the people of Massachusetts adopted a constitutional amendment granting the legislature the power to regulate and restrict advertising in public places and on private property within public view. In 1920, by legislative enactment, the State Department of Public Works was delegated the authority to control and restrict billboards and signs. The State Department in 1924 promulgated rules and restrictions which were contested in 1925 by the billboard industry as confiscatory and unconstitutional. Some 15 injunction suits were filed, including two more or less special cases, on involving additional restrictions imposed by the town of Concord and the other involving a large electric sign placed conspicuously near Boston Common and the State House. These cases were consolidated for common consideration.

Code regulations were adopted by the State Department to the effect "That no board shall be erected within 300 feet of any public park or reservation (subject to exception, under special restrictions, in the case of electrical signs erected on buildings), or within 50 feet of the boundary line of any highway or within 50 feet of another board unless they are back to back (subject to exception in business districts); or within a radius of 150 feet of the point where the center lines of two or more public ways intersect (subject to exception in business districts); or 'near certain public ways where, in the opinion of the division, having regard to the health and safety of the public, the danger of fire, and the unusual scenic beauty of the territory, signs would be particularly harmful to the public welfare'; or in any block where half of the buildings on both sides of the street are used exclusively for residential purposes (subject to exception on consent of the owners of a majority of the frontage); or 'where the visibility of other signs is obstructed; nor may any sign be painted directly upon the wall of any building.' The original restrictions also set up technical standards as to the sizes of billboards and established distances of set backs that had to be observed. There was also a general provision that all advertising structures shall be of such dimensions and material as the Division may prescribe."

The Supreme Court sustained in every particular the restrictions and regulations adopted by the State Department of Public Works. The decision, a 58 page opinion, is based upon a broad conception of the police power of the state, a recognition of the right of travelers upon the public highway to escape from the annoyance of commercial propaganda, and the legality of the protection of public amenity. On this latter point the decision marks the highest plane yet reached to protect public amenity.

GOVERNMENTAL STUDY AND RESEARCH

According to Robert M. Paige, Secretary of the Governmental Research Association, over one-third of the larger cities of the United States—those with populations of 75,000 and more—are the seats of universities and colleges which are concerned with the study of the economic and governmental problems of the communities in which they are located.

In New York City, the Institute of Public Administration, affiliated with Columbia University, is carrying on the realistic and practical studies of governmental administrative problems undertaken originally by the New York Bureau of Municipal Research. New York University has brought out, through its newly established Division of Research in Public Administration, a report on revision of New York City's charter, which is now receiving the attention of the Mayor's committee on this subject.

The University of Chicago has issued many reports prepared by members of its faculty and by graduate students on such pertinent topics as the government of the metropolitan area of Chicago, the water-supply problem in the Chicago region, and judicial organization in the county. Northwestern University, located in neighboring Evanston, has also made many studies of the problems of the Chicago region, among them an important study of property taxation.

The University of Pennsylvania has done much research on community problems through the Departments of Political Science, Economics and Sociology. Under way at present are studies of the direct primary in Pennsylvania, a report on government competition with private industry in the Philadelphia area, and a market survey of the state.

In Detroit Wayne University, a city-supported institution, formerly called Colleges of the City of Detroit, recently established a social science research council, and in cooperation with the Detroit Bureau of Governmental Research, is developing a program of examination and investigation of the governmental problems of the Detroit area. Reports on tax delinquency and the assessment of property have already been completed.

The University of Southern California in Los Angeles has developed a more extensive training program for public employees than any other university in the country. Here city and county employees study for certificates in water, street and power engineering, police administration, office administration and general organization and management. The courses are designed to prepare public employees for advancement and also to train those who desire to enter the public service.

Typical of the way in which Washington University, St. Louis, is contributing to the solution of the social and economic problems of this community is a recent report prepared by the University's School of Business and Public Administration, which analyzes 32 important indices of health, wealth and social condition by census tracts of the city.

Harvard University Faculty members have made many studies specifically focused upon either the Commonwealth of Massachusetts or cities and towns in the immediate vicinity of the University. Among these are reports on public service personnel, public utilities, the government of metropolitan Boston, and public health. As a result of a study of the public health organization of Newton, Mass., this city has reorganized its Health Department and a cooperative arrangement has been worked out whereby the Harvard School of Public Health will use the Newton Health Department as a "laboratory" for student instruction.

Boston University, through its Bureau of Business Research, has conducted a large number of research projects. Among those now under way are studies of tax assessments, trade practices, industrial trends in the state, income statistics as a basis for estimating consumer demand, and industrial changes and migrations in a typical New England city.

FINANCIAL STATISTICS OF CITIES

(From the *Statistical Abstract of the United States*, 1935,
Bureau of the Census, Department of Commerce)

REVENUE RECEIPTS, GOVERNMENTAL-COST PAYMENTS AND NET DEBT OF INDIVIDUAL CITIES OF 120,000 OR MORE: 1933

(All figures in thousands of dollars. Net debt is funded and floating debt less assets in general sinking funds.)

City	Revenue receipts								Governmental-cost payments	
	Total	Taxes			Special assessments and charges for outlays	Earnings of—		All other	Total	Operation, maintenance, and interest, total
		General property	License	Other		General departments	Public service enterprises			
New York	681,875	440,998	22,423	4,272	9,453	7,667	39,742	157,320	684,800	614,136
Chicago	214,488	157,185	9,596	....	7,025	7,873	12,588	20,221	191,840	174,956
Philadelphia	125,138	85,909	1,619	68	44	3,131	6,570	27,797	111,577	107,494
Detroit	111,632	64,641	1,999	108	2,184	4,636	17,858	20,206	97,203	93,444
Los Angeles	111,481	58,193	3,888	....	5,744	2,596	26,140	14,920	123,562	94,887
Cleveland	56,761	31,206	3,001	119	1,051	1,811	8,514	11,059	59,462	53,785
St. Louis	43,789	28,131	2,585	....	3,998	1,650	4,253	3,172	49,783	36,219
Baltimore	53,159	30,885	2,420	753	747	961	4,956	12,437	45,958	41,029
Boston	74,376	51,026	1,705	4,863	523	2,122	4,628	9,509	82,344	71,755
Pittsburgh	45,589	36,997	1,064	97	143	1,084	2,855	3,349	44,367	40,524
San Francisco	50,576	30,145	2,184	....	298	1,183	11,482	5,284	54,863	45,526
Milwaukee	46,233	29,928	853	1,782	1,673	1,524	2,274	8,199	42,410	37,405
Buffalo	47,136	31,437	1,605	476	1,076	754	2,428	9,360	51,727	49,208
Washington	41,524	23,360	5,556	5	422	992	1,901	9,288	41,510	33,185
Minneapolis	26,657	18,056	367	55	1,927	610	1,432	4,210	24,646	23,193
New Orleans	24,093	16,618	1,228	122	1,559	804	2,076	1,686	23,152	18,316
Cincinnati	39,162	22,001	1,799	807	1,274	1,986	2,353	8,942	34,294	28,934
Newark	32,480	20,770	2,111	252	305	1,388	2,158	5,496	39,543	34,455
Kansas City, Mo.	21,256	15,138	1,480	....	471	652	2,099	1,416	24,899	19,009
Seattle	30,179	15,186	536	....	172	584	10,687	3,014	28,889	25,828
Indianapolis	17,951	14,363	259	66	68	458	38	2,699	15,681	15,016
Rochester	28,519	17,901	927	131	1,773	679	1,387	5,721	28,977	25,602
Jersey City	23,586	16,185	1,150	154	101	820	1,923	3,253	27,099	26,284
Houston	14,125	10,025	259	....	1	588	1,602	1,650	11,240	10,742
Louisville	13,193	9,299	526	....	71	833	1,618	846	14,801	12,211
Portland, Ore.	21,410	12,239	838	....	1,006	454	1,934	4,939	20,239	17,325

Columbus	13,671	6,605	732	123	877	267	1,835	3,232	13,357	12,219
Toledo	12,469	6,850	726	97	886	328	1,147	2,435	12,781	12,522
Oakland	16,074	8,601	286	....	132	349	3,317	3,389	15,745	14,046
Denver	16,717	11,152	493	....	1,352	718	2,423	579	16,060	14,974
Atlanta	9,139	5,257	676	84	441	281	1,718	682	8,599	8,108
St. Paul	11,899	7,419	586	10	949	213	1,048	1,674	11,948	10,598
Dallas	10,901	6,473	42	....	188	357	1,358	2,483	11,488	9,109
Birmingham	6,620	3,310	902	23	1,062	160	9	1,154	5,803	5,472
Akron	10,103	5,562	598	....	721	262	1,044	1,916	9,355	8,988
Memphis	8,075	5,209	323	41	151	200	1,268	883	7,138	6,594
Providence	17,926	12,653	144	52	272	430	1,673	2,702	16,465	15,598
San Antonio	7,425	5,136	37	....	3	124	1,004	1,121	6,240	5,466
Omaha	11,147	6,527	207	....	510	243	3,005	655	9,966	9,240
Syracuse	13,868	7,659	303	108	1,259	193	800	3,546	15,003	12,811
Dayton	9,257	5,559	482	51	498	214	815	1,638	9,110	7,813
Oklahoma City	8,887	6,685	182	....	33	231	884	872	5,673	5,424
Worcester	14,019	9,756	76	980	261	875	847	1,224	13,594	11,453
Richmond	9,482	5,385	590	62	169	169	2,021	1,086	9,030	8,607
Youngstown	6,971	4,066	311	5	233	106	622	1,628	7,526	6,678
Grand Rapids	7,896	4,900	65	....	633	428	844	1,026	8,987	7,662
Fort Worth	5,936	4,035	17	....	99	265	776	744	5,475	5,134
Hartford	12,306	9,446	62	592	120	617	923	546	11,203	10,440
Flint	7,762	4,786	19	....	283	442	490	1,742	5,667	5,467
New Haven	10,193	8,771	73	118	33	527	2	669	9,029	8,696
San Diego	7,854	4,048	143	....	95	102	1,658	1,808	8,332	6,549
Nashville	5,815	3,339	192	54	52	94	623	1,461	4,961	4,350
Long Beach	9,028	4,138	194	....	34	155	2,440	2,067	9,319	8,114
Springfield, Mass.	11,211	7,662	99	901	88	860	956	645	11,074	10,512
Bridgeport	7,780	7,003	45	108	9	410	15	190	8,518	8,175
Tulsa	6,249	4,976	75	....	2	107	788	301	5,274	4,920
Des Moines	5,737	4,415	60	....	85	127	866	184	6,122	5,731
Scranton	5,819	4,306	173	97	74	176	1	992	6,313	5,337
Salt Lake City	5,130	3,321	107	....	197	108	562	835	4,883	4,621
Yonkers	12,779	9,266	182	71	289	117	585	2,269	13,450	12,045
Paterson	7,314	4,427	592	59	59	323	1,132	722	7,972	7,414
Jacksonville	6,825	2,145	136	3	65	66	3,779	631	6,079	5,830
Albany	9,449	6,656	167	62	507	120	815	1,122	9,082	8,096
Norfolk	6,634	3,952	529	12	18	122	897	1,104	5,616	5,551
Trenton	6,421	3,747	443	56	67	133	559	1,416	6,822	6,767
Kansas City, Kans.	6,971	3,424	83	....	545	34	2,513	372	5,714	4,865
Chattanooga	3,149	2,061	82	40	64	167	13	722	3,273	3,049
Fort Wayne	3,972	2,312	59	38	12	55	1,194	302	4,907	3,704

City	Governmental-cost payments												Net debt
	Operation and maintenance of general departments									Operation and maintenance of public service enterprises	Interest	Outlays	
	Total[1]	General government	Protection to person and property	Health and sanitation	Highways	Charities, hospitals and corrections	Education		Recreation				
							Schools	Libraries					
New York	489,529	43,411	83,569	45,722	28,101	78,985	138,236	2,943	20,635	20,083	104,524	70,664	1,835,556
Chicago	138,105	15,897	23,840	11,136	8,956	16,398	41,526	1,281	6,374	6,731	30,120	16,884	467,936
Philadelphia	78,793	9,123	14,180	5,156	6,112	7,467	28,710	576	2,087	1,971	26,730	4,083	470,026
Detroit	68,395	5,108	12,615	7,117	3,652	15,466	19,249	804	1,149	12,062	12,987	3,759	320,557
Los Angeles	72,134	7,396	12,189	4,026	5,544	14,355	23,540	1,145	2,084	11,288	11,465	28,675	224,503
Cleveland	40,714	3,037	5,178	2,481	2,002	13,019	10,937	1,121	755	4,495	8,576	5,677	148,345
St. Louis	30,522	3,170	7,625	2,105	1,995	3,445	9,803	473	1,334	2,450	3,247	13,564	72,388
Baltimore	31,511	2,038	6,812	2,742	2,726	6,613	7,793	434	770	1,140	8,378	4,929	167,664
Boston	59,818	3,963	9,082	4,784	3,024	16,482	14,564	904	2,106	2,778	9,159	10,589	138,273
Pittsburgh	32,037	4,194	4,751	2,556	2,396	3,606	10,773	585	976	1,756	6,731	3,843	134,960
San Francisco	33,524	2,714	6,453	1,191	1,228	9,016	8,484	296	1,673	4,551	7,451	9,337	161,951
Milwaukee	32,944	1,994	4,417	3,116	1,612	9,323	8,962	356	1,561	910	3,551	5,005	70,605
Buffalo	42,795	2,713	5,737	2,810	2,561	12,105	10,675	502	1,330	1,218	5,195	2,519	112,431
Washington	32,020	1,681	5,925	2,621	2,295	6,206	8,955	345	1,570	1,165	....	8,325	....
Minneapolis	19,274	1,363	2,310	1,383	1,242	4,760	6,062	343	486	866	3,053	1,453	51,710
New Orleans	11,734	1,487	3,132	1,298	1,246	333	3,384	76	283	1,649	4,933	4,836	82,494
Cincinnati	21,969	1,744	2,606	1,402	1,820	4,203	8,011	343	353	1,220	5,745	5,360	79,339
Newark	26,471	2,174	5,262	2,690	821	3,617	9,361	375	598	987	6,997	5,088	121,706
Kansas City, Mo.	14,550	1,850	2,015	1,074	1,768	1,602	5,056	258	629	1,179	3,280	5,890	62,095
Seattle	14,979	1,640	2,521	1,086	2,011	1,332	4,998	236	369	5,845	5,004	3,061	89,951
Indianapolis	13,357	860	2,703	862	794	2,467	4,383	258	354	20	1,639	665	32,077
Rochester	21,264	1,573	2,479	1,988	1,435	4,943	5,877	133	739	693	3,645	3,375	63,288
Jersey City	20,756	1,918	4,418	1,637	980	4,304	5,462	215	484	912	4,616	815	78,565
Houston	7,079	908	1,145	520	797	567	2,901	77	100	757	2,906	498	53,916
Louisville	9,952	705	1,740	980	848	1,485	3,440	152	310	637	1,622	2,590	33,169
Portland, Ore.	12,705	1,045	1,985	585	990	3,372	3,563	220	329	906	3,714	2,914	60,126
Columbus	9,241	352	1,298	551	1,153	1,446	3,426	56	363	822	2,156	1,138	27,731
Toledo	9,773	465	1,755	628	1,010	1,776	3,124	213	144	775	1,974	259	38,815
Oakland	10,002	423	2,255	406	651	41	5,389	215	430	1,075	2,969	1,699	58,272
Denver	12,137	1,179	2,001	667	1,044	1,211	4,666	215	579	859	1,978	1,086	32,346
Atlanta	6,897	343	1,403	698	439	701	2,857	101	168	390	821	491	13,355
St. Paul	7,869	466	1,800	386	550	702	3,144	220	248	553	2,176	1,350	29,343

Dallas	6,866	316	1,241	468	280	1,532	2,633	57	220	503	1,740	2,379	36,559
Birmingham	4,236	182	934	274	286	103	2,141	79	146	14	1,222	331	19,578
Akron	6,337	284	643	361	355	1,685	2,623	87	39	267	2,384	367	38,742
Memphis	4,763	234	1,067	483	357	378	1,846	79	223	373	1,458	544	26,543
Providence	12,429	532	2,424	1,156	701	2,099	4,186	75	558	615	2,554	867	43,670
San Antonio	3,484	188	587	335	270	18	1,887	39	124	311	1,671	774	28,236
Omaha	5,726	327	1,082	209	377	109	3,082	59	100	1,773	1,741	726	26,810
Syracuse	10,721	527	1,591	817	472	2,668	3,202	126	311	304	1,786	2,192	33,189
Dayton	6,360	288	799	418	398	1,761	2,061	192	200	287	1,166	1,297	21,017
Oklahoma City	3,976	177	799	365	223	65	1,934	42	199	251	1,197	249	17,792
Worcester	10,626	377	1,732	661	759	2,924	3,217	143	140	311	516	2,141	10,937
Richmond	6,007	517	1,076	560	391	622	2,135	64	113	894	1,706	423	27,452
Youngstown	5,788	235	691	223	369	1,665	1,997	94	207	355	535	848	8,829
Grand Rapids	6,458	251	961	410	343	1,591	2,557	159	138	372	832	1,325	13,198
Fort Worth	3,598	186	772	321	256	187	1,605	39	179	233	1,303	341	23,365
Hartford	8,967	482	1,629	784	486	1,700	3,029	108	398	316	1,157	763	20,893
Flint	4,583	151	473	176	178	1,605	1,795	71	85	142	742	200	16,915
New Haven	7,779	346	1,461	414	382	1,250	2,526	97	215	3	914	333	16,145
San Diego	5,127	338	1,017	358	345	16	2,437	99	299	483	939	1,783	19,960
Nashville	3,242	223	951	328	260	264	939	50	123	341	767	611	14,197
Long Beach	5,860	370	1,061	388	346	175	2,651	119	378	1,375	1,153	1,205	23,299
Springfield, Mass.	9,331	318	1,434	714	568	2,369	2,643	200	343	273	908	562	18,182
Bridgeport	7,493	296	1,538	589	245	2,114	2,167	117	183	12	670	343	14,201
Tulsa	3,367	145	681	147	244	56	1,849	57	105	308	1,245	354	20,336
Des Moines	4,536	221	862	252	418	6	2,419	94	108	334	861	391	17,396
Scranton	4,861	266	839	333	272	774	2,059	38	98	[2]...	476	976	8,691
Salt Lake City	3,656	363	507	121	330	24	1,976	77	167	271	694	262	12,405
Yonkers	9,987	600	1,550	1,274	565	1,603	3,147	44	226	380	1,678	1,405	27,437
Paterson	5,700	172	1,226	504	162	380	2,876	69	46	571	1,143	558	28,202
Jacksonville	3,561	224	863	387	465	74	1,088	80	211	1,401	868	249	14,744
Albany	6,293	361	1,369	677	629	606	1,821	112	299	402	1,401	986	27,917
Norfolk	3,254	345	975	353	127	143	1,120	31	48	271	2,026	65	31,784
Trenton	5,267	175	1,063	500	320	597	2,204	84	105	411	1,089	55	16,722
Kansas City, Kans.	2,695	148	678	99	147	166	1,305	23	52	1,470	700	849	9,870
Chattanooga	2,275	104	591	130	202	256	860	45	37	21	753	224	13,347
Fort Wayne	2,583	113	563	175	92	....	1,396	80	58	807	314	1,203	6,128

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[1] Includes miscellaneous expenditures not shown separately. [2] Less than $500.

PER CAPITA REVENUE RECEIPTS, GOVERNMENTAL-COST PAYMENTS, AND NET DEBT OF CITIES OF 120,000 OR MORE INHABITANTS: 1933

City	Revenue receipts, total		Revenue receipts, 1933, for—							Governmental-cost payments for operation, maintenance, and interest, total	
			Taxes			Special assessments and charges for outlays	Earnings of—		All other		
	1923	1933	General property	License	All other		General departments	Public service enterprises		1923	1933
New York	$69.54	$95.31	$61.64	$ 3.13	$0.60	$1.32	$1.07	$ 5.55	$22.00	$59.75	$85.84
Chicago	58.19	61.45	45.03	2.75	....	2.01	2.26	3.61	5.80	41.65	50.12
Philadelphia	51.02	63.43	43.55	.82	.03	.02	1.59	3.33	14.10	42.55	54.49
Detroit	87.74	67.59	39.14	1.21	.07	1.32	2.81	10.81	12.23	64.26	56.58
Los Angeles	87.55	83.37	43.52	2.91	....	4.30	1.94	19.55	11.16	66.32	70.96
Cleveland	66.92	61.80	33.98	3.27	.13	1.14	1.97	9.27	12.04	46.78	58.56
St. Louis	46.03	52.85	33.95	3.12	....	4.83	1.99	5.13	3.82	35.09	43.71
Baltimore	44.65	65.06	37.80	2.96	.92	.91	1.81	6.07	15.21	37.29	50.21
Boston	77.00	94.52	64.84	2.17	6.18	.66	2.70	5.88	12.09	62.32	91.19
Pittsburgh	63.35	67.19	54.53	1.57	.14	.21	1.60	4.21	4.93	51.72	59.73
San Francisco	59.40	77.45	46.16	3.34	....	.46	1.18	17.58	8.09	45.76	69.72
Milwaukee	62.36	77.17	49.95	1.42	2.97	2.79	2.54	3.80	13.69	43.99	62.44
Buffalo	59.18	80.89	53.95	2.76	.82	1.85	1.29	4.17	16.06	50.70	84.45
Washington	58.29	84.06	47.29	11.25	.01	.86	2.01	3.85	18.80	41.54	67.18
Minneapolis	56.00	55.80	37.80	.77	.12	4.04	1.28	3.00	8.81	43.48	48.55
New Orleans	27.90	51.15	35.28	2.61	.26	3.31	1.71	4.41	3.58	38.43	38.89
Cincinnati	62.35	85.12	47.82	3.91	1.75	2.77	4.32	5.11	19.43	49.80	62.89
Newark	61.69	72.66	46.47	4.72	.56	.68	3.10	4.83	12.31	54.99	77.08
Kansas City, Mo.	56.76	51.83	36.91	3.61	....	1.15	1.59	5.12	3.45	43.79	46.35
Seattle	108.27	80.67	40.59	1.43	....	.46	1.56	28.57	8.05	75.11	69.04
Indianapolis	52.19	48.24	38.60	.70	.18	.18	1.23	.10	7.25	35.82	40.35
Rochester	59.56	85.51	53.68	2.78	.39	5.31	2.04	4.16	17.15	49.56	76.77
Jersey City	62.40	73.73	50.59	3.59	.48	.32	2.56	6.01	10.17	56.75	82.16
Houston	44.75	44.43	31.54	.81	....	(1)	1.85	5.04	5.20	34.09	33.79
Louisville	36.39	41.68	29.38	1.66	....	.22	2.63	5.11	2.67	27.21	38.58
Portland	55.47	69.31	39.62	2.71	....	3.26	1.47	6.26	15.99	40.13	56.08
Columbus	43.99	45.62	22.04	2.44	.41	2.93	.89	6.12	10.79	33.94	40.77
Toledo	41.50	41.72	22.92	2.43	.32	2.96	1.10	3.84	8.15	38.73	41.89
Oakland	47.82	54.69	29.26	.98	....	.45	1.19	11.28	11.53	32.50	47.79
Denver	54.63	57.02	38.04	1.68	....	4.61	2.45	8.26	1.97	41.96	51.07
Atlanta	36.23	32.59	18.75	2.41	.30	1.57	1.00	6.13	2.43	27.17	28.91

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[1] Includes miscellaneous expenbitures not shown separately.

St. Paul	51.03	42.82	26.70	2.11	.04	3.41	.76	3.77	6.02	38.60	38.14
Dallas	40.20	39.40	23.39	.15	...	.68	1.29	4.91	8.97	32.87	32.92
Birmingham	26.04	24.35	12.17	3.32	.09	3.91	.59	.03	4.24	21.22	20.12
Akron	45.34	38.11	20.98	2.26	(2)	2.72	.99	3.94	7.24	33.90	33.90
Memphis	38.90	30.88	19.92	1.24	.16	.58	.77	4.85	3.37	36.48	25.22
Providence	48.53	70.19	49.54	.56	.20	1.06	1.68	6.55	10.58	38.76	61.07
San Antonio	26.06	30.76	21.28	.15	...	.01	.51	4.16	4.64	21.29	22.64
Omaha	66.27	51.18	29.97	.95	...	2.34	1.11	13.80	3.01	47.32	42.42
Syracuse	50.49	64.65	35.71	1.41	.50	5.87	.90	3.73	16.53	40.13	59.73
Dayton	36.25	44.81	26.91	2.33	.25	2.41	1.03	3.94	7.93	29.11	37.82
Oklahoma City	55.72	44.66	33.59	.91	...	.17	1.16	4.44	4.38	40.06	27.25
Worcester	49.79	70.84	49.30	.39	4.95	1.32	4.42	4.28	6.18	41.26	57.88
Richmond	46.74	51.28	29.12	3.19	.34	.91	.91	10.93	5.87	41.31	46.55
Youngstown	41.13	40.01	23.34	1.79	.03	1.34	.61	3.57	9.34	32.41	38.34
Grand Rapids	48.21	45.96	28.52	.38	...	3.68	2.49	4.91	5.97	33.93	44.60
Fort Worth	29.07	35.16	23.91	.10	...	.59	1.57	4.59	4.41	26.08	30.41
Hartford	57.45	73.47	56.40	.37	3.54	.72	3.68	5.51	3.26	47.26	62.33
Flint	42.81	46.87	28.90	.12	...	1.71	2.67	2.96	10.52	31.03	33.01
New Haven	38.04	62.65	53.91	.44	.73	.20	3.24	.01	4.11	32.10	53.45
San Diego	72.06	49.61	25.57	.90	...	.60	.64	10.48	11.42	47.31	41.37
Nashville	33.20	37.23	21.38	1.23	.35	.33	.60	3.99	9.36	25.16	27.85
Long Beach	75.15	58.32	26.73	1.25	...	.22	1.00	15.76	13.36	47.61	52.42
Springfield, Mass.	60.48	73.13	49.98	.65	5.87	.57	5.61	6.24	4.21	50.85	68.57
Bridgeport	49.05	52.89	47.61	.30	.73	.06	2.79	.10	1.30	36.84	55.58
Tulsa	55.48	42.51	33.85	.51	...	.01	.73	5.36	2.04	28.86	33.47
Des Moines	51.46	39.65	30.51	.41	...	.59	.88	5.99	1.28	36.73	39.61
Scranton	29.44	40.30	29.82	1.19	.67	.51	1.22	.01	6.87	24.78	36.96
Salt Lake City	47.54	35.58	23.63	.74	...	1.37	.75	3.90	5.79	33.81	32.04
Yonkers	73.48	90.96	65.95	1.30	.51	2.06	.83	4.16	16.16	56.24	85.73
Paterson	34.16	52.62	31.85	4.25	.43	.42	2.33	8.14	5.19	32.63	53.34
Jacksonville	44.25	49.14	15.44	.98	.02	.47	.48	27.21	4.54	40.47	41.97
Albany	42.81	72.79	51.28	1.29	.48	3.91	.92	6.28	8.64	41.49	62.37
Norfolk	38.35	51.15	30.47	4.08	.09	.14	.94	6.92	8.51	38.64	42.80
Trenton	40.39	51.74	30.20	3.56	.45	.54	1.07	4.51	11.41	35.84	54.53
Kansas City, Kan.	47.04	56.49	27.75	.67	...	4.42	.27	20.36	3.02	40.69	39.43
Chattanooga	27.99	25.54	16.71	.67	.33	.52	1.36	.10	5.85	27.05	24.73
Fort Wayne	51.98	33.08	19.25	.49	.32	.10	.46	9.94	2.52	33.61	30.84

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[2] Less than one-half of one cent.

City	Governmental-cost payments, 1933, for—											Net debt	
	Operation and maintenance of general departments									Operation and maintenance of public service enterprises	Interest	1923	1933
	Total[1]	General government	Protection to person and property	Health and sanitation	Highways	Charities, hospitals, and corrections	Education		Recreation				
							Schools	Libraries					
New York	$68.42	$6.07	$11.68	$6.39	$3.92	$11.04	$19.32	$0.41	$2.88	$2.81	$14.61	$186.47	$256.57
Chicago	39.56	4.55	6.83	3.10	2.57	4.70	11.90	.37	1.83	1.93	8.63	43.70	134.05
Philadelphia	39.94	4.62	7.19	2.62	3.10	3.79	14.55	.29	1.06	1.00	13.55	105.00	238.27
Detroit	41.41	3.09	7.63	4.31	2.21	9.36	11.66	.49	.70	7.30	7.86	150.62	194.10
Los Angeles	53.94	5.53	9.12	3.01	4.15	10.74	17.60	.86	1.56	8.44	8.57	124.73	167.89
Cleveland	44.33	3.31	5.65	2.70	2.18	14.18	11.91	1.22	.82	4.89	9.34	139.49	161.53
St. Louis	36.84	3.83	9.21	2.54	2.41	4.16	11.83	.57	1.61	2.96	3.92	16.28	87.36
Baltimore	38.56	2.49	8.34	3.36	3.34	8.09	9.54	.53	.94	1.40	10.25	112.87	205.19
Boston	76.02	5.04	11.55	6.08	3.84	20.95	18.51	1.15	2.68	3.53	11.64	112.42	175.72
Pittsburgh	47.22	6.18	7.00	3.77	3.54	5.31	15.88	.86	1.44	2.59	9.92	125.44	198.91
San Francisco	51.34	4.16	9.88	1.82	1.88	13.81	12.99	.45	2.56	6.97	11.41	128.13	248.01
Milwaukee	54.99	3.33	7.38	5.20	2.69	15.56	14.96	.59	2.61	1.52	5.93	63.58	117.85
Buffalo	73.44	4.66	9.85	4.82	4.39	20.77	18.32	.86	2.28	2.09	8.91	89.44	192.95
Washington	64.82	3.40	11.98	5.30	4.65	12.56	18.13	.70	3.18	2.36	....	.35	....
Minneapolis	40.35	2.85	4.84	2.90	2.60	9.96	12.69	.72	1.02	1.81	6.39	103.39	108.25
New Orleans	24.91	3.16	6.66	2.76	2.65	.71	7.18	.16	.60	3.50	10.47	111.58	175.15
Cincinnati	47.75	3.79	5.67	3.05	3.96	9.13	17.41	.75	.77	2.65	12.49	197.67	172.44
Newark	59.22	4.86	11.77	6.02	1.84	8.00	20.94	.84	1.34	2.21	15.65	132.40	272.27
Kansas City, Mo.	35.48	4.51	4.91	2.62	4.32	3.91	12.33	.63	1.53	2.87	8.00	44.44	151.41
Seattle	40.04	4.38	6.74	2.91	5.38	3.56	13.36	.63	.99	15.62	13.38	214.20	240.45
Indianapolis	35.90	2.31	7.27	2.32	2.13	6.63	11.78	.69	.95	.05	4.41	77.70	86.21
Rochester	63.76	4.72	7.43	5.96	4.31	14.82	17.62	.40	2.21	2.08	10.93	94.06	189.77
Jersey City	64.88	5.99	13.81	5.12	3.06	13.45	17.08	.67	1.51	2.85	14.43	203.25	245.59
Houston	22.27	2.85	3.61	1.63	2.51	1.78	9.12	.24	.31	2.38	9.14	99.52	169.60
Louisville	31.44	2.23	5.50	3.10	2.68	4.69	10.87	.48	.98	2.01	5.13	53.27	104.80
Portland, Oreg.	41.13	3.38	6.43	1.89	3.21	10.92	11.54	.71	1.07	2.93	12.02	104.99	194.65
Columbus	30.84	1.17	4.33	1.84	3.85	4.83	11.43	.19	1.21	2.74	7.19	83.36	92.53
Toledo	32.70	1.56	5.87	2.10	3.38	5.94	10.45	.71	.48	2.59	6.60	106.49	129.86
Oakland	34.03	1.44	7.66	1.38	2.21	.14	18.34	.73	1.46	3.66	10.10	48.38	198.27
Denver	41.40	4.02	6.83	2.28	3.56	4.13	15.91	.73	1.97	2.93	6.75	69.42	110.32

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[1] Includes miscellaneous expenditures not shown separately.

Atlanta	24.60	1.22	5.01	2.48	1.56	2.50	10.19	.36	.60	1.39	2.93	44.12	47.63
St. Paul	28.31	1.68	6.48	1.38	1.98	2.53	11.31	.79	.89	1.99	7.83	76.08	105.59
Dallas	24.81	1.14	4.48	1.69	1.01	5.54	9.52	.21	.80	1.82	6.29	70.37	132.12
Birmingham	15.58	.67	3.44	1.01	1.05	.38	7.87	.29	.54	.05	4.49	52.17	72.00
Akron	23.90	1.07	2.42	1.36	1.34	6.36	9.89	.33	.15	1.01	8.99	131.09	146.14
Memphis	18.21	.89	4.08	1.84	1.36	1.45	7.06	.30	.85	1.43	5.57	134.81	101.50
Providence	48.66	2.08	9.49	4.52	2.74	8.22	16.39	.29	2.18	2.41	10.00	68.57	170.99
San Antonio	14.43	.78	2.43	1.38	1.12	.07	7.82	.16	.51	1.29	6.92	48.19	116.97
Omaha	26.29	1.50	4.96	.96	1.73	.50	14.15	.27	.46	8.14	7.99	153.28	123.09
Syracuse	49.98	2.46	7.42	3.81	2.20	12.44	14.93	.59	1.45	1.42	8.33	80.97	154.73
Dayton	30.79	1.39	3.86	2.02	1.93	8.52	9.98	.93	.97	1.39	5.64	68.64	101.73
Oklahoma City	19.98	.89	4.01	1.83	1.12	.33	9.72	.21	1.00	1.26	6.01	109.12	89.41
Worcester	53.70	1.91	8.76	3.34	3.84	14.77	16.25	.72	.71	1.57	2.61	40.11	55.27
Richmond	32.49	2.79	5.82	3.03	2.12	3.36	11.55	.35	.61	4.83	9.23	133.71	148.47
Youngstown	33.23	1.35	3.96	1.28	2.12	9.56	11.46	.54	1.19	2.04	3.07	76.69	50.68
Grand Rapids	37.59	1.46	5.60	2.39	1.99	9.26	14.88	.93	.80	2.17	4.84	48.10	76.82
Fort Worth	21.32	1.10	4.57	1.91	1.52	1.11	9.51	.23	1.06	1.38	7.72	77.72	138.42
Hartford	53.53	2.88	9.73	4.69	2.90	10.15	18.08	.64	2.38	1.89	6.91	106.61	124.74
Flint	27.68	.91	2.85	1.07	1.07	9.69	10.84	.43	.51	.86	4.48	88.01	102.15
New Haven	47.81	2.13	8.98	2.54	2.34	7.68	15.53	.60	1.32	.02	5.62	52.52	99.23
San Diego	32.39	2.14	6.42	2.27	2.18	.10	15.40	.62	1.89	3.05	5.93	143.40	126.09
Nashville	20.75	1.43	6.09	2.10	1.66	1.69	6.01	.32	.79	2.18	4.91	87.63	90.89
Long Beach	36.08	2.39	6.86	2.51	2.23	1.13	17.12	.76	2.44	8.88	7.45	82.73	150.51
Springfield, Mass.	60.87	2.07	9.37	4.66	3.71	15.45	17.24	1.30	2.24	1.78	5.92	76.79	118.60
Bridgeport	50.94	2.02	10.45	4.01	1.66	14.37	14.74	.79	1.24	.08	4.56	73.73	96.54
Tulsa	22.90	.99	4.62	.99	1.66	.38	12.58	.39	.71	2.09	8.47	87.70	138.34
Des Moines	31.34	1.53	5.96	1.74	2.88	.04	16.71	.65	.75	2.31	5.95	103.01	120.22
Scranton	33.66	1.84	5.81	2.30	1.88	5.36	14.26	.26	.68	(2)	3.30	28.71	60.18
Salt Lake City	25.35	2.52	3.51	.84	2.30	.17	13.70	.53	1.16	1.88	4.81	76.36	86.03
Yonkers	71.08	4.74	11.04	9.07	4.02	11.41	22.40	.32	1.61	2.71	11.94	122.18	195.28
Paterson	41.01	1.24	8.83	3.62	1.17	2.73	20.69	.49	.33	4.11	8.22	58.24	202.89
Jacksonville	25.64	1.61	6.21	2.79	3.35	.53	7.83	.57	1.52	10.09	6.25	94.61	106.15
Albany	48.48	2.78	10.54	5.22	4.85	4.66	14.03	.86	2.31	3.10	10.79	90.80	215.08
Norfolk	25.09	2.66	7.52	2.71	.98	1.11	8.63	.24	.37	2.09	15.62	190.44	245.04
Trenton	42.44	1.41	8.57	4.03	2.58	4.81	17.76	.67	.85	3.31	8.78	54.19	134.75
Kansas City, Kan.	21.84	1.20	5.50	.81	1.19	1.34	10.58	.19	.42	11.92	5.67	84.48	79.98
Chattanooga	18.45	.85	4.80	1.05	1.64	2.08	6.98	.36	.30	.17	6.10	101.49	108.25
Fort Wayne	21.51	.94	4.68	1.46	.77	....	11.62	.67	.49	6.72	2.61	30.95	51.02

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[2] Less than one-half of 1 cent.

REVENUE RECEIPTS AND GOVERNMENTAL-COST PAYMENTS OF CITIES OF 100,000 OR MORE. BY SIZE GROUPS, 1933

	Amount (thousands of dollars)				Per capita			
	Total	Over 500,000	300,000-500,000	100,000-300,000	Total	Over 500,000	300,000-500,000	100,000-300,000
Revenue receipts, total	2,506,724	1,662,233	334,135	510,356	$66.88	$77.42	$65.48	$46.79
From taxes, total	1,720,358	1,144,161	229,769	346,428	45.90	53.30	45.03	31.76
General property	1,612,640	1,076,681	211,141	324,818	43.02	50.15	41.38	29.78
Special property	5,624	2,735	296	2,593	.15	.13	.06	.24
Other special taxes	13,752	9,400	1,072	3,280	.37	.44	.21	.30
Business and nonbusiness license	86,180	54,942	17,036	14,202	2.30	2.56	3.34	1.30
Poll	2,162	403	224	1,535	.06	.02	.04	.14
Special assessments and special charges for outlays	59,581	33,959	9,150	16,472	1.59	1.58	1.79	1.51
Fines, forfeits, and escheats	6,690	4,105	918	1,667	.18	.19	.18	.15
Subventions and grants	273,288	185,670	36,308	51,310	7.29	8.65	7.12	4.70
Donations, gifts, and pension assessments	36,093	27,262	4,248	4,583	.96	1.27	.83	.42
Highway privileges, rents of investment property, and interest	109,984	85,796	11,686	12,502	2.93	4.00	2.29	1.15
Earnings of general departments	62,472	36,992	10,848	14,632	1.67	1.72	2.13	1.34
Earnings of public service enterprises	238,258	144,288	31,208	62,762	6.36	6.72	6.12	5.75
Governmental-cost payments, total	2,464,319	1,639,896	334,970	489,453	65.75	76.38	65.64	44.87
Operation, maintenance, and interest, total	2,197,323	1,460,368	290,100	446,855	58.62	68.02	56.85	40.97
Operation and maintenance, total	1,842,307	1,222,254	242,946	377,107	49.15	56.93	47.61	34.57
General departments, total	1,727,043	1,150,821	226,110	350,112	46.08	53.60	44.31	32.10
General government	142,296	140,758	18,948	18,590	3.80	4.88	3.71	1.70
Protection to person and property	298,852	196,448	38,241	64,163	7.97	9.15	7.49	5.88
Health and sanitation	138,921	94,942	18,126	25,853	3.71	4.42	3.55	2.37
Highways	110,652	69,909	17,047	23,696	2.95	3.26	3.34	2.17
Charities, hospitals, and corrections	292,212	206,280	39,191	46,741	7.80	9.61	7.68	4.28
Education:								
Schools	542,034	333,252	71,453	137,329	14.46	15.52	14.00	12.59
Libraries	19,744	11,420	3,031	5,293	.53	.53	.59	.49
Recreation	60,097	42,834	6,604	10,659	1.60	2.00	1.29	.98
Miscellaneous	122,235	90,978	13,469	17,788	3.26	4.24	2.64	1.63
Public service enterprises	115,264	71,433	16,836	26,995	3.08	3.33	3.30	2.47
Interest	355,016	238,114	47,154	69,748	9.47	11.09	9.24	6.39
Outlays for permanent improvements	266,996	179,528	44,870	42,598	7.12	8.36	8.79	3.91

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Civic Assn., 901 Union Trust Bldg., Washington, D. C.

American Legislators Assn., Equitable Bldg., Denver, Colo.

American Municipal Assn., 923 E. 60th St., Chicago, Ill.

American Society of Municipal Engineers, 850 East 58th St., Chicago, Ill.

Governmental Research Assn., 850 East 58th St., Chicago, Ill.

International City Managers' Assn., 923 East 60th St., Chicago, Ill.

Municipal Finance Officers Assn., Chicago, Ill.

National Assn. of Civic Secretaries, Wm. Penn Hotel, Pittsburgh, Pa.

National Civil Service Reform League, 521 Fifth Ave., New York City.

National Institute of Public Administration, 302 E. 35th St., New York City.

National Municipal League, 309 E. 34th St., New York City.

United States Conference of Mayors, 923 East 60th St., Chicago, Ill.

DIVISION VI

TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

ALASKA AND HAWAII

BY STUART GODWIN

DIRECTOR OF INFORMATION, DEPARTMENT OF THE INTERIOR

ALASKA

Foreign Trade.—During the fiscal year 1935, commerce between Alaska and the United States increased $14,520,054, more than double the increase of the previous year. Four-fifths of this increase was due to greatly increased fish products, especially canned salmon; and the balance is accounted for by increased production of gold and other products. The balance of trade in favor of Alaska was $29,872,022, as compared with $18,262,968 the year before.

Finance.—The territorial treasury had $516,398.26 on hand Dec. 31, 1934, as compared with $381,524.82 the year before. The condition of territorial and national banks, combined, at the close of business June 30, 1935 was as follows: capital, $890,000; surplus and undivided profits, $233,335.81; deposits, $4,521,683.30. For the previous year these figures were: capital, $827,500; surplus and undivided profits, $252,082.17; deposits, $4,374,603.65.

Fisheries.—The value of the Alaska fishery products in 1934 continued to rise, the harvest being the largest in the history of the territory, despite the effects of the longshoremen's strike on the Pacific coast and fishermen's strikes in southeast Alaska and the Copper River area. The total value of fishery products was $41,963,293, an increase over the previous year of $9,836,705. Representing 80 per cent in quantity and 92 per cent in value of the total fisheries output, 116,649,072 salmon of all kinds were taken in 1934, as compared with 81,876,420 the year before. Salmon canning also set a new record, 7,481,830 cases being packed, valued at $37,611,950. This is more than 800,000 cases in excess of the previous record pack of 1926. One hundred and ten canneries were operated, as compared with 91 in 1933, the number of persons employed increasing from 17,130 to 21,654. Herring production generally declined, only 26 plants operating in 1934, as against 31 in the previous year. The total value of herring products was $1,603,024, as against $1,402,194 in 1933. The decrease in the quantity of Scotch-cured herring was offset to some extent by an upward trend in production of herring meal and oil. However, the number of persons employed in plants fell from 988 to 885. Two whaling stations were operated, employing 210 persons. In all 465 whales were taken, yielding 810,950 gallons of whale oil worth $196,670; 76,500 gallons of sperm oil valued at $16,830, and 1,349 tons of fertilizer valued at $37,505—a total value of $251,005, as compared with $68,989 in 1933, when only 182 whales were taken.

Furs.—The number of fur-seal skins taken at the Pribilof Islands was 53,-

468, a decrease of 1,082 as compared with 1933. Of this number, 42,973 were from St. Paul Island and 10,496 from St. George Island. As usual, killings were confined to three-year-old male seals, insofar as possible. The annual census of the fur-seal herd was made August 10, 1934, after the completion of the commercial killing operations. The steady increase since 1910 was continued, the census showing 1,430,418 animals, an increase of 111,850 over the preceding year. In 1910 the Islands showed, in the first seal census, only 132,000 seals. Two public auctions of skins were held at St. Louis, and in addition 4,791 seal skins were disposed of at special sales. At the first sale a gross sum of $336,846.25 was realized for 19,000 seal skins. At the second sale $616,990.75 was received for 26,403 skins. Seal skins disposed of at private sale brought a gross sum of $98,460.44. There were also sold at public auction 915 blue-fox and 26 white-fox skins for $9,345, and at a later sale 457 blue-fox skins brought $12,590.50. In the season of 1934-35 there were taken on St. Paul Island 184 blue-fox and 16 white-fox skins, and on St. George Island 799 blue and 3 white skins.

Minerals.—Since the earliest year for which records are available, 1880, the total value of mineral production in Alaska to the end of 1934 was $680,316,000. In 1934 Alaska mines produced $16,721,000 worth of minerals. The great bulk of this was gold, valued at $16,007,000. Coal ranked next, being valued at $451,500; and $100,000 worth of silver was mined. The actual production of gold declined slightly as compared with the previous year, the figures being 457,345 fine ounces and 469,286 fine ounces, respectively. Copper mining continued virtually at a standstill, due to the very low price of copper, the principal mines remaining closed. The only copper produced was recovered as a by-product of ores whose principal value lay in other metals. The output was 121,000 pounds, valued at $9,700. Petroleum production stopped, the one refinery in the Katalla field being burned late in 1933.

Railroads.—The deficit in the operation of the Alaska railroad and river boat was very considerably cut again, the total deficit being $83,607.66, and the net deficit $73,674.66, or a decrease of 58.83 per cent from the previous year. The number of rail-line passengers carried was 23,310, an increase of 7,486 over the previous year. Rail-line freight traffic was 109,214 tons, an increase over the previous year of 15,702 tons. Of the total freight, 73,060 tons consisted of coal.

Education.—The principal change in the educational system from the previous year was the acceptance by the 1935 territorial legislature of the provisions of the George-Ellzey Act under which the Federal Government made available $15,000 annually to promote vocational education. The legislature provided a like amount, and a full-time supervisor is now employed to promote this work. Public schools in Alaska for the education of white and mixed-blood children consist of schools within the incorporated cities and school districts and rural schools outside. Schools are supported largely by appropriations from the territorial treasury augmented by 25 per cent of the Alaska fund which is derived from a variety of Federal taxes collected in the territory. This fund nets the schools about $50,000 a year. Schools within the incorporated cities and school districts derive from 20 per cent to 30 per cent of their operating costs from local taxation, the territory providing the balance, while all funds for the support of rural schools are furnished by the territory. The educational question is complicated by the distribution of children in widely-separated communities and the inadequacy or total lack of transportation and communication facilities in some regions. The seasonal nature of many occupations and the nomadic life of some of the natives add to these complications. Four-year high schools, accredited by the University of Washington, are maintained at Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Petersburg, Seward, Sitka, and Wrangell. The high schools also are accredited by the Northwest Association of Secondary and Higher

Schools. Non-accredited high schools are maintained at Haines, Nenana, and Valdez. Graduation from a three-year standard normal school or its equivalent is a prerequisite for the Alaska elementary certificate. High school teachers must be graduates of standard four-year colleges and must have completed a minimum of 15 semester-hours in education. During the past year the annual turnover of teachers has decreased from 40 per cent to 18 per cent of the total number employed. During the summer of 1934 an allotment of $175,000 of Public Works Administration funds was received for construction of 20 schools in localities where territorial finances were insufficient. With the exception of the Nome school, for which the plans were enlarged, and one other school delayed by weather conditions, the entire program was completed before the winter of 1934. Schools in Alaska under the Office of Indian Affairs are definitely community centers. Appointments to vacancies in those schools are now made through the Civil Service Commission and require that teachers must be American citizens and graduates of recognized universities or colleges offering four-year courses. During the year 99 such schools were maintained, with a total enrollment of 4,299, including two vocational boarding schools and a school for the blind. The staff consisted of 186 teachers, 24 being native Alaskan Indians.

Health.—The need for modern medical treatment, including immunization against disease, sanitation, and other public health measures, is now fairly well recognized by native leaders. Although local conditions are far from satisfactory for the treatment of tuberculosis, it is more and more realized that precautions save lives and that carelessness means sickness and death. Six hospitals are maintained for Indians with full-time physicians and qualified nurses. Six other communities are served by physicians under part-time appointments and 15 villages by appointed nurses. In other settlements regular service is rendered by 12 traveling nurses. During the summer months physicians on the Coast Guard cutters render valuable service at the most isolated points, and these cutters, as well as the two motor ships maintained by the Office of Indian Affairs, are available for the transporation of patients to hospitals in Alaska and in the states. Airplane pilots in numerous cases have carried medical aid to native patients. It was necessary to contract with private or city hospitals at Cordova, Wrangell, Seward, Fairbanks, Nome, and Anchorage to care for native patients at the expense of the Office of Indian Affairs, until the program calling for five new hospitals is approved. The dental needs of young native children were inadequately met by one full-time traveling dentist. A second will be on duty in the near future. The Public Health Service furnished relief to sick or disabled seamen at Ketchikan, Wrangell, Petersburg, Juneau, Sitka, Cordova, Seward, Unalaska, and Nome. A new acting assistant surgeon was appointed at Ketchikan, and the Public Health Service has continued to detail medical and dental officers to the Coast Guard cutters operating in Alaska waters. An officer of the Public Health Service was detailed as medical director of Indian Affairs in Alaska until April 1, 1935, and another officer supervises the care and custody of those adjudged insane. Approximately 7,500 cannery workers coming to Alaska were examined in Pacific coast ports and vaccinated when necessary. During the year 4,041 days of hospital relief were furnished in contract hospitals, and 3,993 outpatients treatments were given.

Reindeer.—A recent survey by the Reindeer Service, which it believes to be within 10 per cent of correct, places the number of Alaskan reindeer on ranges at 550,000, an indication that reindeer are not as numerous as has been believed. Distribution is uneven, and Governor John W. Troy believes that ownership will have to be limited to such a number as will provide for annual needs if the ranges are to be afforded protection. He has recommended that the Reindeer Service, now only advisory and supervisory, be granted authority by legislation to correct serious abuses, such as overgrazing, illegal and unlicensed butchering, and improper handling of herds. He renewed his recommendation that white ownership be eliminated gradually by purchase or otherwise. The survey referred to above placed the number of reindeer owned by whites or Lapps at 130,000. The new herds placed at Hooper Bay and Nelson Island in the spring of 1934 are being successfully established.

HAWAII

Foreign Trade.—Again Hawaii maintained its favorable balance of trade. Imports for the calendar year 1934 totaled $69,234,606, an increase over the previous year when imports were valued at $63,556,022. The total value of exports also showed a gain, totaling $95,830,059, as compared with $94,317,696 in 1933. In both exports and imports, continental United States represented the great bulk of trade, foreign countries being represented only by imports valued at $5,761,924, and exports from Hawaii valued at $1,316,360. Sugar, as usual, was the principal article of export, although the value of the production fell somewhat as compared with the previous year. Exports of raw and refined sugar were valued at $53,799,760, while the year before this figure was $65,495,134. Pineapples ranked next to sugar in importance, the Islands exporting canned pineapples valued at $34,156,106, and fresh pineapples valued at $45,497. Other exports of importance included paper, coffee, canned fish, and molasses.

Revenues.—Customs receipts for the fiscal year ended June 30, 1935 totaled $1,640,406, an increase over the previous year. Internal revenue receipts for the fiscal year 1935 were $5,590,358, slightly less than the year before when the figure was $5,687,486.

Population.—The population of Hawaii on June 30, 1935, was estimated as 384,437, an increase over the year before of about 5,500. The figures are based on estimates by the Board of Health, the 1930 Federal census recording a population of 368,336. This Board estimated the principal racial groups as follows: Pure Hawaiian, 21,710; Caucasian-Hawaiian, 18,742; Asiatic-Hawaiian, 17,236; Portuguese, 29,550; Caucasian, 51,525; Chinese, 27,264; Japanese, 148,972; Korean, 6,668; Filipino, 54,668; and all others, 754. Of the total population, 92,792 are aliens.

Health.—General health in the Island has been excellent, new low records for the territory being established for rates of mortality, infant mortality, and maternal mortality. An outstanding fact is that there were no deaths from diphtheria during the past year. Governor Poindexter attributes the reduction in diphtheria cases and elimination of deaths to mass immunization campaigns carried on throughout the territory.

Postal Service.—Near the end of the calendar year 1935, airmail service across the Pacific Ocean was established, following many experimental flights, sharply reducing the time between the mainland and Hawaii and between Hawaii and the far East.

PUERTO RICO

By Ernest Gruening

Director, Division of Territories, Department of the Interior

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DESCRIPTION AND AREA

The island of Puerto Rico is the fourth in size, is the easternmost of the four larger Antilles, and San Juan, its capital, is approximately 1,400 nautical miles from New York City and 963 nautical miles from Key West. The Island is 100 miles long by 35 miles wide and has an area of 3,306 square miles. It has an approximate population of 1,750,000. The climate is exceptionally agreeable. The temperature on the coast ranges from 72 to 85 and the trade winds temper the sun's rays on the warmer days. In the mountains which rise to a height of 4,400 feet the average range is from 60 to 85. By contrast Washington in summer ranges from 85 to 90, and higher temperatures (unknown in Puerto Rico), are not uncommon. Puerto Rico is considered the coolest region in the Caribbean tropics. The prevailing language is Spanish, although both English and Spanish are used.

GOVERNMENT

Political Status.—Puerto Rico has been held by the Supreme Court to be unincorporated territory of the United States, a status differing from that of those territories which have been incorporated into the Union.

Organization.—Puerto Rico is governed under the Act of Congress of March 2, 1917, known as the Organic Act, and subsequent amendments. Supreme Executive power is vested in the Governor, who is appointed by the President by and with the advice and consent of the Senate of the United States, and holds office at the pleasure of the President and until his successor is chosen and qualified. The Act provides for seven departments—Justice, Finance, Interior, Education, Agriculture and Commerce, Labor, and Health. The Attorney General, who heads the Department of Justice, and the Commissioner of Education are similarly appointed by the President; the others are appointed by the Governor. The heads of the Department collectively form a council to the Governor known as the Executive Council. The Auditor of Puerto Rico is also appointed by the President.

Governorship.—The Governor of Puerto Rico is Major General Blanton Winship, U. S. Army, Retired, who assumed the duties of office Feb. 5, 1934.

Resident Commissioner.—The Island is represented in the United States by an elected Resident Commissioner, who has a seat in the United States House of Representatives, with the right to debate but not to vote.

Legislature.—Local legislative powers are vested in a Senate and a House of Representatives chosen by the electorate of the Island every four years. The next election will be held on the first Tuesday after the first Monday in November, 1936.

Judiciary. — The judicial system consists of the Supreme Court, the District Court of the United States for Puerto Rico, the district and municipal courts, and justices of the peace. Appeals may be made in certain cases to appropriate higher courts, including the Supreme Court of the United States. The Chief Justice and four Associate Justices of the Supreme Court, the District Judge, District Attorney and Marshal of the District Court for Puerto Rico are appointed by the President. Statutory laws of the United States not locally inapplicable, except as otherwise provided, are in effect in Puerto Rico, except the internal revenue laws.

LEGISLATION

The third regular session of the Thirteenth Legislature convened Feb. 11, 1935, and adjourned *sine die* on April 14, 1935, one day before the day set by the Organic Act for its closing, without having acted on a number of essential bills, including the general appropriation act for the year 1935-36, measures to provide revenues needed for the support of the Insular Government, and legislation required in connection with the reconstruction work to be carried out by the Federal Administration in the Island and its announced policy of securing a wider diffusion of land-ownership. The Governor called a special session of the Legislature for the period June 25 to July 8, 1935 to act on these and other matters of importance.

Among the laws enacted during these two sessions are: To make suffrage universal by removing the literacy qualification; to restrict the operation of appeals from decisions of the Public Service Commission as supersedeas; to amend the insurance law with respect to the operation in the Island of insurance companies organized outside the island and doing business in the United States; to facilitate the recording of uniform agreements and conditions contained in deeds executed in favor of certain Federal institutions operating in Puerto Rico, such as the Home Owners Loan Corporation; to empower the Park Commission to develop new parks primarily in the interest of the tourist program; to provide for a system of Workmen's insurance based upon the exclusive state fund; acts looking to facilitating the rehabilitation program to be carried out by the Federal Government in the Island; acts intended to give effect to the Congressional prohibition with regard to land holdings in excess of 500 acres; to regulate the sale of coffee with a view to preventing adulteration and misbranding; providing a new retirement system for Insular Government employees; to organize public hospital charities and to establish an eight-hour working day.

ECONOMIC CONDITIONS

The Governor's report indicates that the island has closed the year in a relatively good economic condition, considering the steadily aggravating depression intensified by such factors as land concentration in a few hands, absentee ownership, over-population (which is approaching a density of 500 per square mile in a country destined to be agricultural and in which only some 25% of the land is today arable); and the fact that the trade balance has been the lowest in several years. The slight improvement is attributed mainly to the million dollars monthly disbursed by the Puerto Rico Emergency Relief Administration for relief which has quickly found its way to the retail stores. Certain Federal organizations such as the Agricultural Adjustment Administration and the Farm Credit Administration, whose activities have been extended to Puerto Rico have rendered valuable assistance in maintaining the island socially and economically during the years of the depression. Puerto Rico has not, however, received nearly its due share of these funds for relief and rehabilitation purposes. A study of the available figures shows that at the end of the fiscal year, Puerto Rico had received approximately one-sixth of the amount it was entitled to if the funds had been distributed on a population basis.

COMMERCE

Considered in its entirety the overseas trade of Puerto Rico during the past fiscal year showed a decrease of 6.7 per cent in exports and an increase of 9.5 in imports. The excess of exports over imports, the so-called favorable balance, reached the lowest level since the year 1927. As in the past the greater part of Puerto Rico's overseas trade has been absorbed by the United States. It amounted to 94 per cent during the past year, the remaining 6 per cent being divided among 31 different countries. Puerto Rico continued to be one of the best customers of the United States, ranking ninth in the world trade of the United States (preceded by the United Kingdom, Canada, Japan, France, Germany, China, Italy, and Hawaii) and first in the Central and South American area, purchasing over $4,000,000 more than Mexico, which ranked first after Puerto Rico. Of the total imports into Puerto Rico amounting to $69,985,938, the United States furnished $63,573,573.

REHABILITATION

On May 28, 1935, the President by Executive Order established the Puerto Rico Reconstruction Administration and appointed the writer as Administrator. Allotments totalling $35,000,000 have been made for administration and authorized projects. Some $6,000,000 of Puerto Rican sugar processing taxes were also turned over to the Reconstruction Administration. However this sum of approximately $41,000,000 for purposes of reconstruction of a more or less permanent character was diminished by $9,000,000 transferred for relief and work relief for the nine months (October 1935-June 1936, to the Federal Emergency Relief Administration, of which the writer was likewise appointed administrator for the period October 1, 1935- June 30, 1936) and by a loan of $775,000 to the Housing Division of the Public Works Administration, and by grants to other Federal agencies for work in Puerto Rico. The Administrator arrived in Puerto Rico and established an executive organization to inaugurate a program of permanent rehabilitation covering slum clearance, university buildings, reforestation, rural electrification and rural resettlement, the last being divided into specific projects dealing with the coffee, tobacco, citrus fruit and sugar regions respectively.

FINANCE

The Treasury closed the fiscal year in a gratifying condition. The deficit remaining at the close of the preceding year amounting to $278,983.84 was converted into a surplus of $606,477.70, representing a progress of $885,461.54. The cash balance in the general fund amounted to $788,692.53, as compared with $144,771 for the preceding year. Actual collections from all sources of revenues amounted to $12,642,828, or $1,371,764 more than last year; non-revenue receipts amounted to $918,505; and expenditures totalled $12,917,412. The insular and municipal bonded debt on June 30, 1935 amounted to $27,480,000 and $15,527,700, respectively. Sinking funds to meet this indebtedness were $255,314 and $1,796,577 respectively. Additional insular bonds of $134,000 were issued and other bonds were paid off in the sum of $529,000, a net reduction of $395,000. Total assessed valuation of all property was $289,628,594, a reduction of $7,491,035 from the preceding year. Average tax rate for the past year was 2.1857 per cent. There were 14 banks, with 18 branches, operating on June 30, 1935. Aggregate deposits amounted to $38,421,368, an increase of over 17 per cent at close of the previous year.

EDUCATION

The most important event in the school year 1934-35 was the reform in the language of instruction in the elementary school. Heretofore and for years past, all subjects were taught in the four lower grades in Spanish, with the exception of English. Grade five was the transition year. In grades six, seven, and eight, all subjects were taught in English, except Spanish. In recent years this procedure has presented certain features deemed to be objectionable from a pedagogical viewpoint. Spanish now becomes the medium of instruction throughout the eight grades of the elementary schools, with English being taught as a special subject in each grade by better selected and better trained teachers. To this end, the legislature appropriated funds for 100 continental teachers who taught during the 1935-36 school year.

During the school year 1934-35 there were 1,819 schools, divided among 23 high schools, 259 elementary urban schools, 1,494 elementary rural schools, and 43 second units. A total of 246,414 pupils were enrolled as compared with 239,495 for 1934. Average daily attendance was 220,261. Seventy-four per cent of the students are in the first four grades. The total number of school buildings was 2,121, of which 1100 are the property of the government. Value of buildings owned was $11,152,379; value of those rented was $877,978. There were 5,077 teachers; 4,477 paid from the Insular budget, 170 by municipalities, and 430 from emergency relief funds. There are 46 school districts and 661 school lunch rooms; average number of pupils served daily was 34,486. Forty-three private schools, accredited by the Department of Education, were in operation. Total enrollment in the private schools was 8,696, and 424 teachers were employed.

HEALTH

In spite of the profound economic depression prevailing on the Island with resulting undernourishment and misery, as a result of unemployment reaching in the Fall of 1935 the staggering figure of 82%, health conditions, as measured in terms of mortality, were improved during the year as compared with preceding years. The general death rate recorded for the year 1934 was 19.2 per 1,000 population as against 22.6 and 22.3 in 1933 and 1932, respectively. The infant mortality for 1934 (113 per 1,000 living births) was the lowest ever recorded in the island. The reduction in malaria mortality from 200.7 per 100,000 population for 1933 as against 152.8 for 1934, a reduction of 23.9 per cent, is the greatest year to year decrease ever recorded. No serious epidemic occurred, although influenza of a mild character swept the island during the months of August to November, inclusive, resulting in 248,130 cases and 795 deaths.

Tuberculosis continued to rank as the first cause of death with a mounting mortality. The Department of Health under Commissioner E. Garrido Morales has initiated an active campaign to combat the disease. With the assistance of Emergency Relief funds, four district isolation hospitals were constructed; four centers for diagnosis and treatment were placed in operation; a travelling clinic equipped with *x*-ray for diagnostic purposes and with the apparatus for pneumothorax treatment was purchased.

PHILIPPINE ISLANDS

By Creed F. Cox

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War Department

POLITICAL STATUS

The status of the Philippine Islands is that of an unincorporated territory of the United States with its citizens owing allegiance to and under the protection of the United States but not citizens thereof. The year 1935 witnessed a change in the form of government to that provided in the new constitution for the Philippines drafted under authority of the Tydings-McDuffie Independence Act approved March 24, 1934.

PHILIPPINE CONSTITUTION

General Provisions.—The Constitutional Convention assembled in Manila on July 30, 1934 and completed the task of drafting a constitution on Feb. 8, 1935. The constitution is drafted for the independent Philippine government, with the mandatory provisions prescribed in the Independence Act included in an appended ordinance which remains effective pending the final and complete withdrawal of the sovereignty of the United States over the Philippine Islands. The Bill of Rights contains all the personal guaranties of the United States Constitution and of the Organic Act of 1916, with some in addition.

Legislature.—The legislative power is vested in a unicemeral legislature called the National Assembly to meet every year in regular sessions for not to exceed 100 days. Special sessions are limited to 30 days' duration. The membership, not to exceed 120 apportioned on basis of population, is to be elected by popular vote every three years. All other elements of the government, including the Supreme Court of the Philippine Islands, will be reconstituted under the provisions of the Constitution or under laws enacted pursuant thereto. Commissions on Impeachment, Appointment and Elections are provided. The two former are to be constituted within 30 days after the National Assembly is organized and will consist of 21 members each elected by the National Assembly from among its members on the basis of proportional representation of the political parties therein. The Electoral Commission is to be composed of three Justices of the Supreme Court designated by the Chief Justice, and of six members chosen by the National Assembly, three of whom shall be nominated by the party having the largest number of votes and three by the party having the second largest number of votes therein. Heads of departments may be heard before the Assembly. Veto provisions are similar to those in the United States constitution except that the president may veto specific items in appropriation, tariff and revenue bills. The President, within limits prescribed by the Assembly, may fix tariff rates, import and export quotas, tonnage and wharfage dues. The Assembly, by a two-thirds majority, has the sole power to declare war. The salary of the Speaker is $8,000 and of the members, $2,500.

Executive.—The executive power is vested in a President of the Philippines. The President and Vice-President are elected for six-year terms by direct vote of the people and are not eligible for reelection. Their salaries are $15,000 and $7,500, respectively. Their terms end on the Dec. 30 following the expiration of six years after their election. The Vice-President may be a member of the cabinet and also head of a department. The President controls all executive branches and has general supervision over all local governments. He is Commander-in-Chief of armed forces. In emergencies he may suspend the writ of habeas corpus. With the consent of the Commission on Appointments of the National Assembly, he appoints all senior officers of government and all minor officials not otherwise provided for. With the concurrence of a majority of the National Assembly, he has power to make treaties and, subject to the consent of the Commission on Appointments, to appoint diplomatic officers. The present executive departments are continued until the Assembly provides otherwise.

The Auditor General is appointed by the President, with the consent of the Commission on Appointments, for a term of 10 years at a salary of $6,000 and is not eligible for reappointment. Appeals from his decisions may be taken to the President or a court.

The one Philippine Resident Commissioner to the United States is to be appointed by the President of the Commonwealth government instead of being elected by the Legislature as at present.

Judiciary.—The judicial power is vested in a Supreme Court and in such inferior courts as may be established by law. The Supreme Court will remain as now constituted—a Chief Justice and 10 Associate Justices—until the National Assembly shall provide otherwise. The members and judges of inferior courts, all holding office during good behavior until they reach the age of 70 years, are appointed by the President with the consent of the Commission on Appointments. The salary of the Chief Justice is $8,000 and of Associate Justices, $7,500. No law or treaty may be declared unconstitutional without the concurrence of two-thirds of all the members of the Court.

Impeachment.—The President, the Vice-President, Justices of the Supreme Court and the Auditor General may be removed from office for impeachment by a two-thirds vote of the members of the Committee on Impeachment and convicted by three-fourths of all the members of the Assembly not belonging to the Commission on Appointments.

Other Provisions.—Very close control and supervision of all the natural resources of the Philippines is given to the National Assembly. Until otherwise provided by law, English and Spanish remain the official languages. Suffrage is restricted to male citizens who can read and write, but may be extended to women if 300,000 of them vote for it in a plebiscite held for that purpose within two years after the adoption of the Constitution. Amendments to the Constitution may be proposed either by the Assembly (three-fourths of all its members so voting) or by a convention called by the Assembly for that purpose. The Constitution provides that the government established thereunder shall be known as the ‘‘Commonwealth of the Philippines’’ and that upon the final and complete withdrawal of the sovereignty of the United States, the Commonwealth of the Philippines shall thenceforth be known as the ‘‘Republic of the Philippines.’’ The autonomous powers of the Commonwealth government will permit exercise by the Filipino people of general control of their local affairs. The authority reserved to the United States is set forth in an ordinance appended to the Constitution. During the period of the Commonwealth government the United States will be represented in the Islands by a United States High Commissioner who ‘‘shall be the representative of the President of the United States in the Philippine Islands.’’

PHILIPPINE INDEPENDENCE

The necessary steps to carry out the provisions of the Tydings-McDuffie Act preparatory to the establishment of the Commonwealth government were taken by the Philippine government. On March 18 the Constitution was submitted to the President of the United States by a committee of members of the Constitutional Convention. It was certified by the President on March 23, 1935, as conforming substantially with the provisions of the Independence Act and submitted to the people of the Philippine Islands for their ratification or rejection at an election held on May 14. It was accepted by a vote of 1,213,046 for ratification and 44,963 for rejection. Under the terms of the law, "such vote shall be deemed an expression of the will of the people of the Philippine Islands in favor of Philippine independence."

The election of officers for the Commonwealth government under the Constitution, was held on Sept. 17; the results were announced by Presidential proclamation, and the inauguration of the Commonwealth government took place on Nov. 15, 1935. Secretary of War Dern was designated by the President as his representative at the inauguration ceremonies which were also attended by Vice President Garner and Speaker Byrnes of the House of Representatives. Frank Murphy, the last American Governor General, appointed by the President as the first United States High Commissioner to the Philippines, entered upon the duties of his new office the same date. Under the program prescribed in the Independence Act, withdrawal of American sovereignty and the establishment of complete independence will take place on July 4, 1946.

JOINT TRADE CONFERENCE

In order that effective measures for promoting mutual trade advantages between the United States and the Philippines may be thoroughly studied, the President announced his intention to call the joint trade conference provided for in the Tydings-McDuffie Act at as early a date as practicable after the inauguration of the Commonwealth government. To facilitate the work of the conference, committees have been appointed both in the United States and in the Philippines to continue studies already begun so that the necessary basic material will be available.

FINANCES

The Governor General reported that continued interest in economy has resulted in substantial savings and improvement. Continued centralized supervision of provincial and municipal finances with budgetary control effecting economies such as reductions in salaries, transportation and *per diem* allowances, non-filling of all but most essential vacant positions, withholding of promotions and imposing of a five per cent reserve, resulted in the provinces closing the year in good financial condition. In the central government every department and every bureau lived within its income and closed with a surplus due to forced savings and under-expenditure of appropriations.

The total income of the central government was $39,337,375.67, an increase of $4,324,408.77 over 1933. Total expenditures amounted to $35,359,794.55, an increase of $592,279.62 over the expenditures for 1933. Total current surplus as of Dec. 31, 1934 was $37,589,594.71, compared with $33,612,013.59 in 1933. The increase of $3,977,581.12 represented the excess of income over expenditures for the year.

A net reduction of $4,063,000 in the total outstanding bonded indebtedness of the Philippine Islands was made for the year 1934. On Dec. 31, 1934, the outstanding bonded indebtedness of the insular government amounted to $58,253,850, and that of its provinces and municipalities to $9,168,850, or a grand total of $67,422,700. If from this total there be deducted collateral bonds with a face value of $6,698,850, issued against provincial and municipal bonds, and the cash and investments accumulated in the various sinking funds, the resulting net balance of insular bonded indebtedness as of Dec. 31, 1934, will be $48,616,749.42.

EXTERNAL TRADE

The total external trade of the Philippine Islands with the United States and foreign countries amounted to $194,010,747, an increase of $20,878,231, or 12 per cent over 1933. Exports were valued at $110,403,636, an increase of 4-1/3 per cent, while imports amounted to $83,607,111, an increase of 24 per cent. A commodity trade balance of $26,796,525 in favor of the Islands is shown as compared with $38,409,590 for 1933. As in previous years this favorable balance is the direct result of the usual large favorable balance of trade with the United States, which in 1934 amounted to $37,467,916.

The trade of the islands with the United States amounted to $146,219,272, representing about 75 per cent of the total external trade. Purchases from the United States were valued at $54,375,678, representing 65 per cent of the total imports into the islands as compared with practically the same percentage purchased from the United States in 1933. Shipments to the United States amounted to $91,843,594, approximately 83 per cent of the total exports from the islands, and represent a slight increase over such shipments in 1933.

EDUCATION

The total school enrollment for the school year 1933-34 was 1,179,032 as compared with 1,204,375 for the preceding school year. There has been a notable increase in the percentage of enrollment in the vocational schools and a decrease in the enrollment in the academic high schools during recent years. Since 1930-1931, when the enrollment reached its peak, the greatest loss in enrollment has occurred in the secondary schools, where it has dropped from 79,054 in 1930-1931 to 56,255 in 1934. Total school expenditures were $11,943,033 as compared with $13,955,530 for the preceding year. The principal problem connected with education is the increasing one of financial support and, although nearly one-fifth of the government income is devoted to education, it has so far been impracticable to provide facilities for more than about 40 per cent of the children of school age. Despite the numerous difficulties which have been brought about by the economic depression, among which has been the retrenchment policy of the government, a high standard of instruction and an almost constant level of enrollment in the public schools have been maintained.

HEALTH

Health conditions were, in general, satisfactory. No epidemics of any importance have been reported. Hospitals and dispensaries have functioned satisfactorily. The public health service for the Mountain Province and Sulu, both inhabited mainly by non-Christians, was improved and expanded. Good progress was made in providing public health nursing service for the people living in barrios and in congested districts of the larger towns, and in extending governmental health service to the remote places in the archipelago. The campaign to improve the diet of the poor people has been carried on with considerable success. The Bureau of Health participated in the relief work made necessary by a number of severe typhoons which visited different parts of the islands and succeeded in preventing the occurrence of epidemics following them. The American Red Cross contributed $25,000 to typhoon relief during 1934.

THE VIRGIN ISLANDS

BY STUART GODWIN

DIRECTOR OF INFORMATION, DEPARTMENT OF THE INTERIOR

GOVERNMENT

During the year Lawrence W. Cramer succeeded Paul Pearson as governor. The Islands have been under the jurisdiction of the Interior Department since 1931, when they were transferred from Navy Department jurisdiction. The three islands in the group, St. Thomas, St. John, and St. Croix, were purchased from Denmark in 1915.

SUGAR AND RUM

The greatest economic forward step in the Islands has been in a rum and sugar industry in St. Croix. The Virgin Islands Company was established by the Federal Government with an initial capital of $1,000,000 allotted from Public Works Administration funds. It purchased two sugar mills, 3,000 acres of land, and 40,000 gallons of rum, and erected a rum distillery, which is now in active operation. One of the sugar mills was renovated and is in operation; the other will be rehabilitated shortly. Of the land purchased, 2,000 acres have been cleared or cleaned, and 700 acres put in cultivation. Rum totaling 220,000 gallons had been distilled and warehoused for aging at the end of the fiscal year 1935. The Company purchased 26,000,000 pounds of sugar cane from 650 growers, chiefly homesteaders and renters. During the last half of the fiscal year an average of 1,400 field and industrial workers have been given employment by this project. One privately-owned sugar mill operated, and three small, privately-owned distilleries were put in operation. Dry weather reduced the cane crop about one-fourth and this fact, together with the increased use of cane juice for distilled rum, decreased sugar production from 4,088 tons in 1934 to 1,670 tons in 1935. In St. Thomas two distilleries exported 20,272 gallons of locally produced rum, most of it made from St. Croix molasses. However, sugar cane grown by homesteaders in St. Thomas found a ready market at one of the distilleries.

BANKING

During the year 1935 the liquidation of the National Bank of the Danish West Indies was accomplished, and its funds transferred to the newly organized Virgin Islands National Bank. This was not possible until the time it was done because the Danish government had granted a concession to the old bank for the exclusive right to issue bank notes for a 30-year period, which concession was guaranteed by the United States at the time of the change of sovereignty. Danish currency has been replaced by United States currency. The new bank has a capital of $175,000, and deposits on June 30, 1935 were over $800,000.

TRADE

Eighteen tourist ships visited St. Thomas during the year, carrying 8,000 transient tourists. Seventeen ships are scheduled already for trips in the coming fiscal year. Low prices, due to low local duties, resulted in substantial sales of liquor, perfumes, and native handicraft to transients. A small but steady increase in the number of winter residents has created a demand for small modern furnished houses. The Bluebeard Castle Hotel was opened on Christmas Day, 1934, and its limited facilities are now taxed to such an extent that a new and larger hotel is projected for tourist accommodations. The best beach in the Islands has been developed. During the fiscal year, 549 ocean-going ships entered the harbor of St. Thomas, which is 38 ships more than the year before, and 44 ships above the past 15-year average. Bunkering of ships showed a 37 per cent increase, 279 vessels taking on bunkers of coal or oil, as compared with 203 the previous year. This increased patronage is attributed to removal of certain harbor dues, placing the port on a favorable competitive basis with other West Indian stations. St. Thomas is now served by two steamship lines out of New York, a weekly steamship service with Puerto Rico having Baltimore and New York connections, and two boats plying between European ports and the west coast of the United States *via* Panama Canal provide monthly service in both directions. Weekly air service connecting St. Thomas with the mainland, *via* San Juan, Puerto Rico, and with the islands to the south and South America, continued throughout the year. Tomato growing for the mainland winter market apparently has turned the corner after three years of failure. Raising of cattle on land generally unsuited for other purposes continued. Exports of cattle from St. Thomas and St. John totaled 581 head, as compared with 669 the year before. However, St. Croix exported 1,690 head, as compared with 1,149 the previous year. Prices dropped as low as 2½ cents a pound, but during the last four months the market improved until prices reached five cents per pound and better, with considerable demand. Puerto Rico is virtually the only market for Virgin Islands cattle. The homesteading program went ahead steadily, homesteaders having increased to 255 at the end of the fiscal year. The average homestead consists of about six acres, and the average price is $210, amortized on a 20-year payment plan. The same plan has gone forward on the other islands on a smaller scale.

HEALTH

Statistics indicate an upward trend in general health in the Virgin Islands. Malaria, formerly the outstanding health problem in the Islands, was under complete control this year, there having been only 37 cases in all of the Islands. A few years ago there were nearly 1,000. In St. Thomas and St. John more than half of the population was inoculated with typhoid antitoxin, and the result is that there has not been a single case of typhoid reported since July 19, 1934, and no cases of typhoid fever were reported in St. Croix during 1935. The year witnessed the lowest death and infant mortality rates on record for all time.

GUAM AND AMERICAN SAMOA

By B. L. Canaga

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GUAM

Government.—On Dec. 23, 1898, President McKinley issued an Executive Order placing the Island of Guam under the control of the Navy Department. A naval officer is commissioned by the President as Governor and the same officer is ordered by the Secretary of the Navy as Commandant of the Naval Station, Guam, which station includes the entire island. The inhabitants are governed under the Spanish laws that existed in 1898, modified and supplemented as required for local conditions by the Governor, whose Executive Orders have the force and effect of law. A new set of civil and criminal codes and procedure in the judiciary system was completed during the fiscal year 1933. There is a Guam Congress which assembles periodically. It has no legislative authority, but acts entirely in an advisory capacity. The present Governor of Guam is Capt. George A. Alexander, U. S. N. The seat of the government is in the city of Agana.

Population.—The population on June 30, 1935 was: natives 19,455; non-natives residing in Guam, including families, 754; naval personnel, 690—a total of 20,899. The native population increased 461 during the fiscal year 1935. The natives are known as Chamorros. They are of

Malayan origin, but have strains of Spanish, Mexican, Chinese, and Philippine blood. Since coming under American jurisdiction, the people of Guam have been regarded as wards of the United States Government.

Agriculture.—The main occupation of the natives is agriculture and every possible encouragement is given them by the Island Government. The Division of Agriculture has purchased high grade seeds and sold them or given them free of charge to farmers of the poorer class. Rice, corn, sugarcane and vegetable seeds have been distributed in this manner. Various kinds of pure bred stock have been imported by the Government to improve, by breeding, the strains now existing on the Island. Important advances have been made in growing rice, an important food staple, and about 260 acres of rice lands have been brought under cultivation. Considerably more acreage has been planted in corn during the past year and more than double the amount of copra was harvested than was cut during the previous year. The production of kapok has progressed though the poor market for that product has not been encouraging. The public market, established in 1931 and open three days a week, provides the farmers a ready cash outlet for their products, and the sale of foodstuffs for the fiscal year 1935 amounted to $14,495.82, an increase of $1,429.08 over the previous year.

Trade.—The copra export was 3,618,910 pounds valued at $72,439.71 or about double that of the amount exported the previous year. The balance of trade against Guam for the fiscal year 1935 was $499,231, total exports having been valued at $87,104.72 and imports at $586,335.87.

Banking.—There is one bank in Guam which was established in 1915. The capital stock of $15,000 is owned by the Naval Government of Guam which conducts the business of commercial banking as a division of the treasury of that government. During the fiscal year 1935 the bank financed shipments of merchandise imported by the merchants of Guam to the value of $401,397.94. Gross earnings for the fiscal year were $25,970.08 and net earnings $7,158.97.

Shipping.—Few ships call at Guam on the passage between the United States and the Orient. During the fiscal year 1935, 46 vessels entered and cleared Apra Harbor, Guam. Of these, 27 were government vessels. 17,186,090 pounds of incoming and 3,769,985 pounds of outgoing cargo were handled.

Health.—There are no civilian physicians or hospitals in Guam, and the government hospitals for the people are operated by naval surgeons, nurses and native nurses trained by naval personnel. The general health was very good during the past year, and no emergency conditions existed. The hospitals functioned to capacity and clinic facilities were taxed to the utmost. The care of chronic cases requiring prolonged hospitalization and the care of tubercular cases constitute major problems. There were 63 hospital admissions for all forms of tuberculosis. The gradual increase in the population has created an inevitable demand for additional hospital services. All native school children were given the annual physical examination. Guam lepers are cared for in the Culion Leper Colony in the Philippines, and native insane patients are sent to the New Insular Psychopathic Hospital in Manila. There were two hospital admissions for leprosy during the fiscal year of 1935.

Education.—The fundamental policy of the Naval Government, with reference to educational activities, has been formulated as follows:

(a) General: To enlighten the minds of the people by means of education and to stimulate their development through training and self discipline.

(b) Academic: To maintain and improve the present school system and methods of education so that the educational and cultural needs of the people may be developed to the fullest extent; to promote the use of the English language as a medium of speech among all the people; to afford the older people an opportunity to study the English language and other essential subjects by the establishment and maintenance of adult classes in the schools.

(c) Industrial: To establish and maintain an excellent school of the manual arts and trades; to enlarge and improve the Agricultural School Farm as an institution for the study and application of modern, scientific methods of agriculture and animal husbandry especially applicable to Guam; to increase the facilities of the Agricultural School Farm along experimental lines and to make the results of experiments available to the farmers of the Island; to encourage attendance at the Agricultural School Farm by assisting graduates of the school in procuring and stocking their own farms.

(d) Legal: All children of both sexes, between the ages of seven and 12 years, must attend school unless excused by competent authority. Children over or under the compulsory school age may attend the public schools only with the approval of the Head of the Department.

During the past year 36 schools were maintained, classified as follows: 25 academic schools (pre-primer to 6th grade); one junior high school (7th to 9th grades); one evening high school (10th to 12th grades); two American grade schools (pre-primer to 9th grade); one private school (pre-primer to 11th grade); five industrial units; and one agriculture school. With the exception of the Head of the Department and four teaching positions in the Evening High School, all positions in the Department of Education were filled by natives of Guam. Four naval officers and two native teachers made up the faculty of the Evening High School.

Evening courses of study were offered in all the schools of Guam for the benefit of the adult population. Thirty-eight teachers were employed for these classes in which 652 men and 519 women were enrolled.

AMERICAN SAMOA

Government.—Prior to 1899 the interests of the United States, Great Britain and Germany in the Samoan Islands had been the subject of misunderstanding and controversy for many years. In that year a treaty between the three interested powers was signed by which the Samoan Islands west of longitude 171° W. were allocated to Germany and those east of that line to the United States. On Feb. 19, 1900, the President, by Executive Order, placed the islands of American Samoa under the jurisdiction of the Secretary of the Navy. They are under the immediate administration of a naval officer who is commissioned by the President as Governor of American Samoa and that officer is also ordered to duty by the Secretary of the Navy as Commandant of the Naval Station Tutuila.

The present governor is Capt. Otto C. Dowling, U. S. N., who assumed office April 17, 1934. The seat of the Naval Government is Pago Pago, Tutuila.

The policy of the Naval Government of ''Samoa for Samoans'', with no alienation of lands or exploitation of the natives, has rigidly been adhered to, as such a policy assures the existence of the Samoan race. The political situation in the islands has remained excellent and the natives are peaceful, happy and contented.

Population.—The population of American Samoa, including Swain's Island, on May 31, 1935, was 11,313, an increase of 623 over the previous year.

Agriculture.—With the rapid increase of population on a very limited area of arable land, development of sound agriculture is essential if the people are to continue to be self-supporting. They must be educated and trained to improve the productivity of the very limited arable lands and to grow better and more varied foodstuffs. With this end in view, an experimental farm has been established at Taputimu where various kinds of fruits, nuts, vegetables and shade and timber trees are being grown to prove their adaptability to the soil and climate, these proven products to be distributed free to the natives. Copra continues to be the principal agricultural product, the Island Government, at the request of the people, handling the sale of the crop. Favorable market conditions and excellent prices resulted in improved economic conditions and stimulated an increased crop of over 1,200 tons, more than double that of the previous year.

Trade.—The Matson Navigation Company maintains a four weeks' schedule between San Francisco, Honolulu, Pago Pago, Suva, Fiji and Sydney, carrying passengers, mail and freight, providing practically the only means of trade with the rest of the world. During the fiscal year 1935, 1,242 tons of copra were shipped on consignment for which there was received $46,951. Total exports and imports for the fiscal year 1935 amounted to $63,272.67 and $137,784.00, respectively.

Banking.—The Bank of American Samoa, founded in 1914 by Executive Order of the Governor of American Samoa, conducts a general commercial and savings bank business, its deposits being guaranteed by the Island Government. During the past year the bank has continued to pay 3% interest on savings accounts. The principal officers and directors are naval officers of the Island Government, which owns the capital stock of $25,000. It is in sound financial condition.

Health.—Public health is under the administration of a naval medical officer especially trained for that duty. The state of public health has remained excellent throughout the year. The sanitation of the islands is carefully watched and progress is as continuous as funds will permit. There are no civilian physicians, and the native population is treated without cost. Hospitalization is modern, and native nurses are trained by the naval personnel. Tuberculosis and pneumonia again lead the field as the causes of death. Tuberculin and dental surveys were completed during the year, and a campaign against yaws has been waged with great vigor. Health educational courses in all schools and health lectures to the people by the naval authorities have been continued.

Education.—The present public school system has proved itself to be admirably adapted to the present and future needs of the Islands. The school attendance during the past year has been approximately 2,200, and school was conducted over a period of nine months in 20 public schools. In addition a summer institute for teachers was conducted which provided a two months course of study and training with guest instructors from the Territory of Hawaii. The expense for this institute was borne by the Barstow Foundation. The present teaching staff consists of 53 teachers, of whom seven are white and 46 are Samoans. The Director of Education is a naval officer. Special emphasis is given to instruction in the English language, health and sanitation, Samoan arts and crafts, agriculture, manual arts, and domestic arts. In addition to the public schools there are five parochial schools conducted by missionaries of various denominations. There are eight white and nine Samoan teachers in these schools which have an enrollment of 495 children.

THE DISTRICT OF COLUMBIA

By W. Reed West

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UNEMPLOYMENT COMPENSATION

The District of Columbia unemployment compensation act, and the acts providing for old age assistance and aid for the blind, are of considerable general interest since they give some indication of the type of legislation which is considered appropriate in completing the plan contemplated in the national Social Security Act. All three of these acts were approved shortly after the signature of the national law.

The local unemployment compensation act was regarded as a model or guide for the states. It provides for a

District unemployment fund to which employers of one or more individuals eligible for benefits must pay one per cent of the pay roll during the year 1936 and increasing to three per cent by 1938. From 1941 on, employers will be segregated into classes, paying one and one-half per cent to four per cent, depending upon the unemployment hazard in each class. In addition to its contributions as an employer the District will add $100,000 to the fund in 1936, $125,000 in 1937, and $175,000 in 1938. The District, therefore, has adopted the plan of a single fund or pool, and makes concessions, by way of reduced contributions, to employers with good records for steady employment.

Weekly benefits to the totally unemployed will be 40 per cent of the average weekly wage of the beneficiary, plus 10 per cent for a dependent spouse and five per cent for each dependent relative, with a maximum of 65 per cent or of $15, whichever is lower. The partially unemployed may through benefits bring their total income to $2 more than the benefits would be if totally unemployed. However, benefits within any period of a year are to be in the ratio of one-third of a week's benefit to each credit week in the last two years, up to a total of 16 times a week's benefit, and after this in the ratio of one-twentieth of a week's benefit to each credit week in the last five years. A credit week is defined as a week in which the individual concerned performed some employment against which no benefits have been charged and with respect to which no benefits were paid. There must be a "waiting period" of three weeks of total unemployment or six weeks of partial unemployment before benefits can begin.

A beneficiary must have performed employment in at least 13 weeks during the past year. He must have registered for work at the employment office designated by the proper officials and must be willing to accept employment. Persons taking part in a labor strike are not eligible while the strike is in process, but on the other hand, no beneficiary may be required to accept a position which is due directly to a labor dispute or that offers wages or conditions less favorable than those prevailing in the locality or in which he would be required to join a company union or to resign from or refrain from joining a labor union.

Domestic servants, casual laborers, United States employees, and certain other classes of workers are exempted from the terms of the act. Employees of the District government, except those now subject to the retirement laws, are included.

The act is to be administered by a board of five, composed of the three Commissioners of the District and one representative of employers and one of employees chosen by the Commissioners.

An interesting feature of the act permits the board to enter into agreements with authorities in other states for an exchange of rights acquired by individuals removing from one jurisdiction to the other.

OLD AGE ASSISTANCE

The Federal Social Security Act contemplates state old age assistance laws and, accordingly, an act setting up assistance for needy aged persons in the District was passed. It fixes a minimum age of 65 for receiving assistance, and restricts its provisions to citizens of the United States and residents of the District during the preceding year who also have resided in the District at least five out of the past nine years. Inmates of correctional institutions and habitual tramps or beggars are made ineligible for assistance. No person may receive benefits whose spouse, father, child or grandchild is able to support him, but he may receive supplementary benefits if such person can give only partial support.

The Commissioners of the District constitute the board of administration. The amount of assistance in individual cases is not fixed in the act but is left to the board. However, the national law limits the Federal aid to half of a monthly grant of $30, and this no doubt will serve as a restraint upon higher payments. It is thought that the average will not exceed $20. In lieu of a grant the board may refer an applicant to the Board of Public Welfare for admission to the Home for Aged and Infirm, if that seems best. There is provision for deduction of the amount of aid granted, with interest, from the estate of a deceased recipient or of the last survivor of a married couple. While this act was under consideration it was brought out that 30 states and territories had state-wide mandatory old age assistance systems, while five had county optional systems.

AID FOR THE BLIND

The act providing aid for the needy blind does not differ in its general provisions from the old age assistance law. Administration is in the hands of the Commissioners of the District. The amount of aid in individual cases is not fixed, except that children living with their parents, may not receive over $30 a month. As required in the national law, it is provided that no person receiving old age assistance may benefit from the act. Its provisions apply not only to the totally blind but to those whose eyesight is so impaired as to render them incapable of rehabilitation for self-support. Disqualifications include refusal to receive treatment, refusal to engage in an occupation of which the individual is capable, and refusal to receive vocational or other training. Primary responsibility for support is placed upon spouse, father, child or grandchild as in the old age assistance act. At the time this act was under consideration, 25 states already had blind relief laws.

MOTOR VEHICLE REGULATION

Financial Responsibility.—The appalling death rate from automobile accidents in the District has been a matter of general concern. Two acts of Congress dealing with motor vehicle regulation were passed. The District had had no requirement of special financial responsibility for automobile owners or operators until this year. It is now provided that drivers' permits and registration certificates of persons guilty of driving while under the influence of liquor or narcotics, or leaving the scene of an accident in which there was personal injury, either in the District or elsewhere, shall be suspended until proof is furnished of ability to respond in damages in cases of personal injury or death to the extent of $5,000 for one person and $10,000 for two or more persons, and for property damage of $1,000. Persons against whom judgments of over $100 are found will have their permits and registrations cancelled if they do not satisfy or provide for satisfaction of the judgment to the extent of the amounts cited above, and provide for liability for future damages. Proof of ability to respond in damages includes certificate from an authorized insurance company.

In accident cases involving non-residents, service of process may be made upon the director of vehicles and traffic as lawful attorney of the non-resident, provided the plaintiff sends a notice and copy of the process by registered mail to the defendant, and provides for reimbursement of the defendant for expenses and reasonable attorney's fee in event the action is lost. The purpose of this act is not merely to provide financial responsibility but to eliminate or check the small number of drivers who are believed to be the cause of a large percentage of accidents. At the time this act was under consideration, 21 states and six Canadian provinces had financial responsibility laws.

Negligent Homicide.—There has been no legal recognition in the District of a traffic crime more serious than reckless driving, with a penalty of not over $100 fine or not more than 30 days imprisonment, and manslaughter, which may carry a prison term of 15 years. Because of the heavy penalty it has been difficult to secure indictments from the grand jury for manslaughter, except in the most extreme cases, and the trial juries similarly have been reluctant to convict. Manslaughter must involve gross or wanton recklessness. Congress has now passed a law, based on a Michigan statute, creating the misdemeanor of negligent homicide and carrying a maximum of one year's imprisonment, a fine of $1,000, or both. It is applicable in deaths caused by driving at an immoderate rate of speed or in a careless, reckless, or negligent manner but not willfully or wantonly. In cases in which manslaughter is charged the jury may render a verdict of negligent homicide.

DIVORCE

It has been impossible to secure an absolute divorce in the District upon any grounds except adultery. Legal separation has been permissible for drunkenness, cruelty and desertion. These grounds have been extended to cover for both absolute divorce and legal separation, adultery, desertion for two years, voluntary separation for five consecutive years, and conviction of certain felonies with a sentence of two years. Cruelty is retained as a basis for legal separation. However, divorce from bed and board may be extended to absolute divorce after two years. Provisions affecting the annulment of marriage have not been altered. Applicants for divorce must have been residents of the District for one year for cause arising in the District and for two years for cause arising out of the District.

PUBLIC UTILITIES

An amendment to the public utilities law changes the procedure in appeals from decisions of the Public Utilities Commission and limits court reviews of its decisions so as not to include questions of fact unless the findings are unreasonable, arbitrary or capricious. While the constitutionality of the latter provision was questioned, it is based upon the Federal Communications Act, which has been upheld in the Supreme Court. The act is designed to reduce the time required in appeal and to prevent the retrial of cases with all evidence considered *de novo.*

SMOKE CONTROL

There has been a popular but erroneous impression that Washington has had especially stringent smoke control laws. However, a law has now been enacted which gives to the Commissioners authority to promulgate regulations upon the subject. The act does not provide for any new office of combustion engineer or the like, but grants authority to use all the services of the District in carrying out the law. No detailed regulations are laid down in the act, but the Commissioners are given a flexible power to adjust their regulations to the development of smoke control technique and to changing needs.

MINOR DISTRICT LEGISLATION

Minor acts of some general interest provide for the settlement of estates of absentees and absconders, change the law upon descent and distribution, enact an excess condemnation law, require jury service of certain classes previously exempted by judicial construction, and extend the term of service of the police court jury from two weeks to one month.

PART THREE
GOVERNMENTAL FUNCTIONS

DIVISION VII
PUBLIC FINANCE AND TAXATION

NATIONAL FINANCE AND THE PUBLIC DEBT

By D. W. Ellsworth

Editor, *The Annalist*

THE FEDERAL DEFICIT

It is customary to speak of a ten billion dollar deficit. Most people, however, would be hard put to it to give an answer to the question: What does this mean? There are two reasons for this confusion of thought. It is never entirely clear whether the ten billion figure is something already "achieved", something about to be realized in the near future, or something which, if current trends continue, will result eventually. This confusion, in turn, comes from the fact that, in discussing the Federal deficit, different people use different sets of figures. Some use the figures of actual receipts and expenditures shown on the Daily Treasury Statement. Others use the annual budget figures. These budget estimates may be discarded at once. All of them to date have turned out to be the wildest kind of guesses. The President and his advisors have compared actual results with budget estimates and pointed with pride to the fact that actual results have been more favorable from the standpoint of economy than the original estimates. This has served to befog the issue and to make intelligent analysis difficult. Our analysis, therefore, may begin with a statement of the actual New Deal deficit incurred to date. From that point we may, as a rough indication of what to expect in 1936, append a summary of the President's budget message of Jan. 6, 1936, and attempt to correlate it with what has actually happened up to the end of 1935.

The second reason why the ten billion dollar figure is confusing is that the human mind cannot grasp the meaning of such a huge sum. Some writers have attempted to show what it means by comparing it with the number of minutes which have elapsed since the birth of Christ. To determine the validity of the ten billion figure is our first care and then seek to clarify its meaning.

Table I (p. 208) shows the gross public debt, the general fund balance and the net public debt since the beginning of 1934. In figuring the deficit to date, it is the net public debt which counts. In the net debt we find in a single figure the combined result of all Treasury operations. Table II (p. 208) shows the net increase in the net debt (a) since Feb. 28, 1933, to various intervening dates down to the end of 1935 and (b) since June 30, 1933, when the New Deal emergency expenditures really got under way. From Table II it is clear that the New Deal deficit had not yet, at the end of 1935, reached the ten billion figure. Of the various sums appropriated by Congress under the New Deal, however, there remained unexpended $6,615,938,821 on Dec. 31, 1935. From Table I it may also be calculated that the net increase in the net debt in the fiscal year 1934 was $2,794,000,000; in the fiscal year 1935, $2,389,000,000; in the six months ended Dec. 31, 1935, $1,488,000,000. In spite of talk of increasing or decreasing, at one time or another, government expenditures, the net debt has increased at a steady pace which may roughly be estimated at $2,500,000,000 per year. With $6,000,000,000 available and with demands for relief showing few signs of diminution, it is a simple matter of arithmetic that, at the current rate of increase, the Federal deficit will indeed reach $10,000,000,000 about the end of 1936 (or some time in the first half of 1937 if we date the New Deal deficit from June 30, 1933)

TABLE I. .PUBLIC DEBT OF THE UNITED STATES

(Millions of Dollars)

	Gross Debt	General Fund Balance	Net Debt	Monthly Net Change
1934				
Jan. 31....	25,071	1,537	23,531	+ 743
Feb. 28....	26,052	4,902	21,150	−2,381
Mar. 31....	26,157	4,818	21,339	+ 189
Apr. 30....	26,118	2,294	23,834	+2,495
May 31....	26,155	2,022	24,133	+ 299
June 30....	27,053	2,582	24,471	+ 338
July 31....	27,189	2,472	24,717	+ 246
Aug. 31....	27,080	2,137	24,943	+ 226
Sep. 29....	27,190	2,193	24,997	+ 54
Oct. 31....	27,188	1,812	25,376	+ 379
Nov. 30....	27,299	1,597	25,701	+ 325
Dec. 31....	28,479	2,564	25,915	+ 214
1935				
Jan. 31....	28,476	2,319	26,156	+ 241
Feb. 28....	28,526	2,081	26,445	+ 289
Mar. 30....	28,817	2,446	26,372	− 73
Apr. 30....	28,668	1,935	26,733	+ 361
May 31....	28,638	1,957	26,682	− 51
June 29....	28,701	1,841	26,860	+ 178
July 31....	29,120	1,789	27,331	+ 471
Aug. 31....	29,033	1,475	27,558	+ 227
Sep. 30....	29,421	1,799	27,623	+ 65
Oct. 31....	29,462	1,473	27,989	+ 366
Nov. 30....	29,634	1,434	28,200	+ 211
Dec. 31....	30,557	2,209	28,348	+ 148

TABLE II. NET INCREASE IN THE NET PUBLIC DEBT

(Millions of Dollars)

	From Feb. 28, 1933	From June 30, 1933
June 30, 1933........	963	....
Dec. 30, 1933........	2,074	1,111
June 30, 1934........	3,757	2,794
Dec. 31, 1934........	5,201	4,238
June 29, 1935........	6,146	5,183
Dec. 31, 1935........	7,634	6,671

With this understanding of the matter, it is entirely proper to speak of a ten billion dollar deficit. The only method yet devised for making such a huge sum intelligible, is one explained by George Buchan Robinson in *The Annalist* of Dec. 6, 1935. Mr. Robinson's method is to assign to each state and its subdivisions their individual shares in the deficit. The sums are allocated by the same method used in establishing quotas for the Liberty Loans during the War, namely to give one-third weight to population and two-thirds weight to assessed valuations of property. It is not surprising, perhaps, to find that the share of New York State is $1,233,000,000, or that the other states' shares range downward to a minimum of $14,000,000 for Nevada, or that the share of New York City is $781,796,000. It is when we get down to the smaller communities that the size of this burden becomes reduced to understandable figures. There are, for example, a number of comparatively small communities in Westchester County, New York, but the smallest quota is $117,000 for Buchanan Village, and the largest municipality, Yonkers, bears a quota of $12,995,000.

Inasmuch as the total public debt is now about $30,000,000,000, the share of each political subdivision is approximately three times the share of each in the New Deal deficit.

RECEIPTS AND EXPENDITURES

Economy on the part of the Roosevelt Administration was widely questioned when the first bill passed by the Seventy-fourth Congress was sent to the President for his signature on

Jan. 31. This bill approved a restoration on April 1 of the final 5 per cent of the Federal pay-cut with which President Roosevelt made his gesture toward the economy plank of the Democratic platform of 1932. The extent to which the President's ideas had changed in this respect seemed to be indicated further on Jan. 24 in a special message stating that, after the unemployment crisis had passed, the Government could afford to spend $500,000,000 annually for the conservation of national resources.

When the first session of the Seventy-fourth Congress finally adjourned, it had already earned the doubtful distinction of being a ''Ten Billion Dollar Congress''. Chairman Buchanan of the House Appropriation Committee estimated that total appropriations amounted to $10,250,000,000. The closing hours of the session were marked by a bitter denunciation of ''the administration's profligate spending policy'' by Representative Woodruff of Michigan. He ventured the prediction that the American people would seize the first opportunity given them through the ballot ''to register for all time a repudiation of these shocking, wasteful policies that will be a lesson to other administrations for many years to come''. ''For the fiscal year ended June 30, 1934,'' he said, ''the administration appropriated $7,105,050,000; for the fiscal year ended June 30, 1935, there was appropriated $8,851,069,000 and this, together with the sum appropriated by this session of Congress, represents a sum greater by $1,514,274,000 than was expended by the United States during the period of 124 years from Washington's first inauguration to the fiscal year ended June 30, 1913, when President Wilson assumed executive authority over the expenditures of the United States government''.

The main vehicle for the spending of the huge sums projected by the budget for the fiscal year 1936 was a $4,880,000,000 work relief bill signed by the President April 8. A four-point program of land, water and mineral projects, with related public works, formed the basis of the spending to be attempted under this act. In a ''fireside talk'' over the radio April 25 the President said: ''Our problem is to put to work 3½ million employable persons now on the relief rolls''.

The only way to get the record straight, however, is to begin at the beginning and trace the figures through in order of importance. Presumably the matter of greatest importance is the emergency spending shown in Table III (p. 211). Beginning in July, 1935, the Daily Treasury Statement contained a classified and subdivided account of emergency expenditures which helped greatly the analysis of where these moneys were actually being spent. In order to present as clear a picture as possible, this improved form of statement in Table III has been taken and the attempt made to fit the various scattered items for the fiscal years 1934 and 1935 into it.

It will be observed that in the year ended June 30, 1935, the largest sum was spent for relief, and that of this amount the largest expenditure was by the FERA. (Federal Emergency Relief Administration) In the six months ended Dec. 31, 1935, however, FERA expenditures decreased sharply through the operation of the President's plan to remove employable persons from the relief rolls and place them on work relief projects. By December, 1935, FERA expenditures had dwindled to $49,783,709.

In the fiscal year 1935 the second largest item was public works. In the last half of 1935 these expenditures continued at a heavy rate but the total was slightly lower than in the corresponding period of 1934. An important favorable development was repayment of loans and grants to states, municipalities, railroads &c. at a faster rate than new loans and grants were being made. This development, indeed, would have brought about a marked reduction in total public works expenditures had it not been for the entrance of the new avenue of expenditure, the Works Progress Administration, which spent $215,315,122 in an attempt to put people to work ''on useful projects''.

One reason for the seeming futility of this method, according to disclosures made Jan. 4, 1936 by Victor F. Ridder, New York City WPA Administrator, was that relief workers on WPA projects refused to take private employment even when, as business conditions improved, there were opportunities. Skilled workers, for example, preferred to receive a steady pay check of $90 a month for nominal hours of work at the prevailing rate of wages and to supplement these earnings with outside work. There was also a marked gain in "all other" public works expenditures, which include such undertakings as the Passamaquoddy project, the Florida Ship Canal and several large dams for which Federal funds were allocated for the construction of power and reclamation projects in various sections of the country. Expenditures for public highways and for river and harbor work lagged behind those of 1934, and there was a decrease in the amount spent on the Boulder Canyon project as it neared completion.

It may also be noted from Table III that there was a heavy increase in agricultural-aid expenditures, caused primarily by disbursements by the Commodity Credit Corporation; in the second half of 1934 the Corporation had reported an excess of repayments. Aid to home owners was also heavier in the last half of 1935, a decrease in home owners' loans having been more than offset by increased emergency housing operations, by the activities of the Federal Housing Administration (which were just beginning to get under way in a big way) and by the beginning of operations by Dr. Tugwell's Resettlement Administration. Under miscellaneous emergency expenditures, the only items worthy of serious attention are a resumption of net RFC (Reconstruction Finance Corporation) expenditures instead of an excess of repayments, and a heavy increase in expenditures by the TVA (Tennessee Valley Administration).

Under "general expenditures", which represent the cost of carrying on the ordinary functions of the government as distinguished from "emergency" or "recovery and relief" expenditures, it is found that almost every item showed an increase in the six months ended Dec. 31, 1935, as compared with the corresponding period of 1934, and that in many instances these increases were superimposed on increases in the fiscal year ended June 30, 1935, over the preceding fiscal year. The largest item, as shown by Table III, is debt charges. Interest on the public debt declined because of the policy of the Treasury of continuing to increase the floating debt and because of the refunding of Liberty bonds into obligations bearing lower rates of interest, as noted in detail in a succeeding section of this paper. This decline was more than offset, however, by the fact that a considerable proportion of holders of Liberty bonds refused to accept new issues in exchange and had to be paid off in cash.

The next two most important items are the result of provision for past and future wars, namely, veterans' payments and benefits and national defense. Both showed marked increases. The Agricultural Adjustment Administration spent nearly $50,000,000 more. Departmental expenditures were much greater. The postal deficiency was almost double. The other items of general expense are given in detail in Table III.

Receipts from taxation showed a gratifying increase in the fiscal year 1935, as shown by Table III, and when the figures for the six months ended Dec. 31, 1935, were available they disclosed a further substantial gain. The chief sources of these increases were the income tax, miscellaneous internal revenue and customs duties. All of these gains were traceable to the higher level of general business activity which prevailed. With respect to the income tax, it was clear at the end of 1935 that a further marked increase was to be expected in the calendar year 1936 as a result of the sharp upturn in general business activity which occurred in the last half of 1935. Throughout the calendar year 1935 total receipts were running at a rate slightly higher than in any previous period except during and immediately after the World War. It would seem, therefore, that an economy effort on the part of the Administration should have resulted in a balanced budget or something close to a balanced budget. Some observers believed that in that event the country would have experienced a much greater return of business confidence and a full recovery from the depression. England did it that way and there seemed, indeed, to be no reason why this country, with its vastly greater resources, could not have done it that way.

The first severe blow to Federal revenues came July 16, when the Boston Federal District Court of Appeals, in an action brought by the Hoosac Mills Corporation against the United States, ruled that the processing tax levied by the Secretary of Agriculture under the Agricultural Adjustment Act was unconstitutional, being an improper delegation of power by Congress. This opinion was the forerunner of nation-wide injunctions against the collection of this tax and was followed by a marked reduction in revenues from that source. On Nov. 25 the Supreme Court of the United States granted a temporary injunction restraining the collection of the processing tax of one cent a pound on rice. The AAA issued a statement that the order would not affect the availability of farm contract payments, which are met ''by the Treasury out of the general funds''. It was estimated that by the time this injunction was granted litigation by processors in more than 1000 cases throughout the country had tied up more than $150,000,000 of processing taxes (See Table III). On Jan. 6, 1936, the Supreme Court of the United States declared the Agricultural Adjustment Act unconstitutional in its entirety.

TABLE III. RECEIPTS AND EXPENDITURES

(Thousands of Dollars)

Receipts	Six Months Ended Dec.		Year Ended June 30	
	1935	1934	1935	1934
Internal revenue:				
Income tax	554,815	420,550	1,099,119	817,961
Miscellaneous internal revenue	974,554	855,066	1,657,192	1,469,594
Processing tax on farm products	65,072	262,510	521,380	353,049
Total internal revenue	1,594,441	1,538,126	3,277,691	2,640,604
Customs	190,168	169,770	343,353	313,434
Miscellaneous receipts:				
Proceeds of government-owned securities:				
Principal—foreign obligations	67	64	67	397
Interest—foreign obligations	163	438	601	20,034
All other	52,977	46,133	38,106	57,415
Total proceeds	53,207	46,635	38,774	77,846
Panama Canal tolls &c	11,511	12,176	24,704	27,103
Seigniorage	25,517	53,104	58,035	517
Other miscellaneous	27,165	25,270	57,911	56,050
Total miscellaneous receipts	64,193	90,550	140,650	83,670
Total receipts	1,902,010	1,845,083	3,800,467	3,115,554

VII. PUBLIC FINANCE AND TAXATION

(Thousands of Dollars)

General Expenditures	Six Months Ended Dec. 31		Year Ended June 30	
	1935	1934	1935	1934
Departmental	222,340	185,245	355,993	341,335
Public buildings	6,547	17,123	25,269	75,516
River and harbor work	40,564	26,716	55,119	78,281
Panama Canal	5,165	4,222	8,766	9,197
Postal deficiency	30,015	15,024	63,970	52,003
Retirement funds (U. S. share)	40,662	21,009	21,009	21,143
District of Columbia (U. S. share)	5,708	4,364	4,539	5,700
National defense:				
Army	140,581	109,068	212,187	205,306
Navy	186,625	156,066	321,411	274,388
Total national defense	327,206	265,134	533,598	479,694
Veterans' pensions and benefits:				
Veterans' Administration	286,644	278,719	555,573	506,549
Adjusted-service certificate fund	100,000	50,000	50,000	50,000
Total veterans' benefits	386,644	328,719	605,573	556,549
Agricultural Adjustment Administration	308,053	259,691	561,540	279,723
Farm Credit Administration	5,642	6,892	12,979	23,123
Debt charges:				
Retirements	335,225	139,969	573,001	359,491
Interest	357,739	413,880	820,926	756,617
Debt Settlements, foreign governments	....	....	....	358
Estate taxes, forfeitures, gifts, etc.	....	....	557	15
Total debt charges	692,964	553,849	1,394,484	1,116,481
Refunds:				
Customs	8,180	10,962	20,716	14,046
Internal revenue	17,353	13,056	24,532	48,664
Processing tax on farm products	9,809	15,791	31,208	1,195
Total refunds	35,342	39,809	76,456	63,905
Subs to Stocks of Federal Land Banks	....	....	1,939	−1,738
Total general expenditures	2,106,853	1,727,797	3,721,235	3,100,915

Emergency Expenditures				
Agricultural aid:				
Agricultural Adjustment Administration	58,059	116,468	150,415	72,144
Commodity Credit Corporation	154,652	−139,771	....	....
Farm Credit Administration	−30,155	39,630	111,827	67,168
Federal Land Banks	26,204	15,276	46,108	47,893
Total agricultural aid	208,760	31,603	308,350	187,205
Relief:				
Federal Emergency Relief Administration	459,993	828,996	1,315,309	340,742
Civil Works Administration	370	10,114	11,327	716,163
Emergency conservation work	319,443	199,595	435,509	331,941
Department of Agriculture	2,101	69,601	80,561	....
Total relief	781,907	1,099,306	1,842,706	1,388,846
Public works (including work relief):				
Boulder Canyon project	7,536	12,861	23,821	19,445
Loans and grants to states &c	−16,309	76,316	137,707	78,596
Loans to railroads	−50,239	68,370	66,231	70,739
Public highways	140,090	221,307	317,357	267,882
River and harbor work	79,485	93,592	147,925	72,450
Rural Electrification Administration	261	....	17	....
Works Progress Administration	215,315	....	....	....
All other	189,979	167,533	328,271	135,746
Total public works	566,118	639,979	1,021,329	644,858

(Thousands of Dollars)

Emergency Expenditures	Six Months Ended Dec. 31		Year Ended June 30	
	1935	1934	1935	1934
Aid to home owners:				
Home loan system	32,074	55,794	29,487	755
Emergency housing	17,794	1,683	6,480	369
Federal Housing Administration	6,392	1,107	....	....
Resettlement Administration	22,588	....	1,762	....
Subsistence homesteads	414	2,016	3,662	....
Total aid to home owners	79,262	60,600	41,391	1,124
Miscellaneous:				
Export-Import Banks of Washington	6,360	−3,096	....	....
Federal Deposit Insurance Corporation	....	498	498	149,502
Administration for Industrial Recovery	4,728	5,499	12,497	6,632
Reconstruction Finance Corporation	2,423	−42,296	391,671	1,614,932
Tennessee Valley Authority	25,248	16,130	36,149	11,037
Total miscellaneous	38,759	−23,265	440,815	1,782,103
Total recovery and relief	1,674,807	1,817,221	3,654,591	4,004,136
Total emergency and general	3,781,661	3,545,018	7,375,825	7,105,050
Excess of expenditures	1,879,651	1,699,935	3,575,358	3,989,496
Public debt retirements	335,225	139,969	573,558	359,864
Net excess of expenditures	1,544,426	1,559,966	3,001,800	3,629,632
Other deductions:				
Trust accounts, increment on gold &c.	−240,614	116,367	522,056	834,880
National bank note retirements	295,998	....	91,416	....
Total other deductions	55,384	116,367	613,472	834,880
Net excess of expenditures	1,489,043	1,443,599	2,388,328	2,794,752

A serious threat to the Administration's financial program was removed, at least temporarily, on May 23 when the Senate voted, 54 to 40, to sustain the President's veto of the Patman Bonus Bill providing for immediate payment of the soldiers' bonus with $2,201,000,000 in newly-printed currency. The veto had been over-ruled by the House the day before by a vote of 322 to 98.

TREASURY FINANCING

With the exception of a short period from the middle of August to the middle of September, when there was a moderate reaction in the market for government bonds, Treasury operations were carried out smoothly in 1935. There was a conspicuous absence of disturbing incidents such as the dollar devaluation of 1933, the gold-buying program of 1933-34 and the nationalization of silver in 1934. The market reflected this tranquillity by rising to an all-time high record in

TABLE IV. UNITED STATES TREASURY BONDS

[Source: Federal Reserve Board.]

	Average Price, 14 Issues	Average Yield, 11 Issues
1934		
January	100.3	3.50
February	101.9	3.32
March	102.8	3.21
April	103.7	3.12
May	104.4	3.01
June	104.7	2.94
July	105.2	2.85
August	104.1	2.99
September	102.3	3.20
October	103.4	3.08
November	103.5	3.05
December	104.1	2.97
1935		
January	105.5	2.83
February	106.7	2.73
March	106.6	2.69
April	107.1	2.64
May	107.0	2.61
June	107.3	2.61
July	107.5	2.59
August	106.6	2.66
September	105.2	2.78
October	105.2	2.77
November	105.7	2.73
December	105.7	2.73

July. The August-September reaction was followed by moderate recovery, as shown by Table IV.

As recorded in the THE AMERICAN YEAR BOOK for 1934, aside from about $1,000,000,000 worth of short-dated Treasury bills, there were six large blocks of Treasury obligations maturing in the last month of 1934 and the calendar year 1935. In addition the Treasury called for redemption the remaining Liberty Bonds outstanding and two other issues. The complete list of maturities (exclusive of Treasury bills and obligations of government agencies guaranteed by the Government) is given in Table V.

TABLE V. MATURING OBLIGATIONS

Dec. 15, 1934, 2¼% certificates	$ 992,496,500
Mar. 15, 1935, 2¼% notes	528,101,600
Apr. 15, 1935, 4th Lb. 4¼s, called	1,870,000,000
June 15, 1935, 3% notes	416,602,800
June 15, 1935, 1st Libs., called	1,933,209,950
July 1, 1935, 2% Consols, called	600,000,000
Aug. 1, 1935, 1⅝% notes	353,865,000
Aug. 1, 1935, 2 Pan. Canal, called	75,000,000
Oct. 15, 1935, 4th Lb. 4¼s, called	1,250,000,000
Dec. 15, 1935, 2½% notes	418,291,900

Among those not thoroughly conversant with the new technique of Washington finance whereby the Treasury sells its securities to the banks, the banks sell their securities to the Treasury through the Reconstruction Finance Corporation, and various branches of the Treasury and the banking system transfer funds promiscuously by the simple process of making entries in the duly authorized books (the entire process, so far as the banking system is concerned, being "guaranteed" by the Federal Deposit Insurance Corporation), there was some curiosity at the beginning of 1935 as to how the Treasury was to handle successfully the refunding of the large maturities shown in the above table, particularly nearly $2,000,000,000 in called Liberty bonds. With heavy Federal unemployment relief disbursements circulating throughout the country, corporations were destined during the year to become surfeited with "cash", lessening almost to the point of zero their dependence on bank loans for working capital, so that in the absence of normal opportunities for lending money the banks of the nation were only too glad to invest their idle funds in government securities. The same influences operated in the same direction with respect to other institutional investors, such as insurance companies. As the year wore on, it became increasingly evident that the new technique had provided for every possible contingency, except, perhaps, some unexpected disaster. With the Administration pursuing a more conservative policy, at least to the extent that no wild schemes such as the gold-buying policy were essayed, the Treasury was able not only to refund these obligations without difficulty, but also to sell enough obligations in excess of maturing obligations to finance the huge Treasury deficit and to retire the last of the outstanding Liberty bonds.

Otherwise the chief developments of the year lay in several experiments and innovations with respect to methods. These were: (1) the selling of long-term government bonds to the highest bidders; (2) the discontinuance of the use of certificates of indebtedness as a method of raising funds and a lengthening of maturities on Treasury bills; (3) the regulation of the amount of Treasury bills currently offered to meet the exigencies of the moment; (4) an attempt to get a greater portion of the public debt into the hands of the public through the sale of so-called baby bonds; (5) the issue of new securities with a reservation of the right of the Treasury to raise the price after a specified date; (6) the retirement of national bank notes from circulation through the calling for redemption of certain bonds bearing the circulation privilege.

From the reader's standpoint it would be more convenient to discuss these innovations topically in order of their importance, but they are so interwoven with contemporaneous events that a clearer conception of what was done can be obtained by presenting the record chronologically. To simplify these matters as much as possible, there has been prepared Table VI showing the major financial operations of the Treasury, that is, all new issues of securities exclusive of the ever-recurring Treasury bills and the moderate amount of baby bonds sold to the public continuously throughout the year.

TABLE VI. TREASURY FINANCING

(Exclusive of Weekly Bill Offerings and Sales of Baby Bonds)

	For Cash	For Exchange[1]	Maturity	Yield[2]
				per cent
December 15, 1934:				
3⅛% bonds	$491,389,100	....	1949-52	....
1⅛% notes	476,473,900	$ 210,199,500	June 15, 1936	....
2⅛% notes	....	765,408,000	June 15, 1939	....
March 15, 1935:				
1⅝% notes	....	513,000,000	Mar. 15, 1940	....
2⅞% bonds	....	1,559,569,300	1955-60	....
2⅞% bonds	....	746,407,550	1955-60	....
1⅝% notes	....	864,480,000	June 15, 1940	....
May 29, 1935:				
3% bonds[3]	98,779,000	....	1946-48	2.67
June 15, 1935:				
1½% notes	....	738,373,400	June 15, 1940	....
June 26, 1935:				
3% bonds[3]	112,669,000	....	1946-48	2.62
July 15, 1935:				
1⅜% notes	526,233,000	....	Dec. 15, 1939	....
2⅞% bonds[3]	101,967,000	....	1955-60	2.77
July 29, 1935:				
2⅞% bonds[3]	106,483,000	....	1955-60	2.77
August 14, 1935:				
2⅞% bonds[3]	98,465,000	....	1955-60	2.82
September 6, 1935:				
1½% notes	512,434,350	568,910,050	Mar. 15, 1939	....
2¾% bonds	....	429,180,000	1945-47	....
December 15, 1935:				
2¾% bonds	484,418,400	161,317,700	1945-47	....
1½% notes	487,803,700	249,370,900	1940	....

[1] For maturing obligations; see Table VII.
[2] To earliest redemption date.
[3] Sold to highest bidders.

The first important change in financing methods occurred in February, when the Treasury inaugurated the use of 273-day bills. For a year, up to the last week of February, the Treasury had been offering 182-day bills, previous to which 90-day bills had been the shortest of short-term Treasury paper. Up to the end of February, the amount of the weekly bill offerings had been $75,000,000, but in the last week of the month the amount was raised to $100,000,000, evenly divided between 182-day and the new 273-day maturities.

One of the more striking developments of the year was the announcement on March 10 that the Treasury would use part of the profit from the devaluation of the dollar to reduce the national debt by about $675,000,000 through the retirement of national bank notes from circulation. This plan involved the use of $642,000,000, or all that was left over from the "profit" on devaluation after $2,000,000,000 had been set aside as an exchange stabilization fund. As a part of this plan the 2 per cent consols of 1930 were called for redemption on July 1, 1935, and the 2 per cent Panama Canal bonds of 1916-36 and 1918-38 were called for redemption on Aug. 1, 1935. These bonds bore the circulation privilege. Some observers called this measure inflationary because it would increase the excess reserves of the member banks of the Federal Reserve System. This accusation was denied by the Treasury.

When, however, the time came to redeem $600,000,000 of 2 per cent consols on July 1, the plan was modified on the ground that, if carried out, it would cause a further considerable increase in excess reserves of member banks of the Federal Reserve System. Instead of bringing about a genuine reduction in the public debt, as originally planned, the Treasury drew on its devaluation "profits" to the extent of only $90,000,000 and obtained the rest of the funds needed for redeeming the consols by calling in government deposits in the banks. It was then necessary to replenish these bank balances by selling additional government securities.

On April 14 Secretary of the Treasury Morgenthau issued a fourth and final call for redemption before maturity of $1,250,000,000 of Fourth Liberty 4¼s on Oct. 15, 1935. In this connection he made a radio speech in which he pointed out that the average interest rate for all government securities then in the hands of the public was only 2.86 per cent. He predicted that government expenditures in the two years ended June 30, 1935 would fall $2,000,000,000 below the original estimate. He said the annual interest cost on the public debt was $800,000,000, a smaller amount than when the national debt was $8,000,000,000 smaller back in 1925. Critics of the Administration pointed out that it seemed to have become a favorite device of the Administration to set up a spending program far in excess of anything capable of realization and then to call attention to "economies" when actual expenditures fell below budgetary estimates; and that the low interest rates at which the deficit was being financed meant nothing so far as the government's credit was concerned because the Treasury had manipulated the money market by various artificial devices and by virtually establishing a dictatorship over the banking system where a large part of the new issues were lodged. On Jan. 6, 1936, the President stated in his budget message that the average rate on the interest-bearing debt on Nov. 30, 1935 was 2.575 per cent.

In April the Treasury announced another offering of 2⅞ per cent Treasury bonds and 1⅝ per cent notes for exchange for $1,933,000,000 First Liberty bonds previously called for redemption June 15. Still another innovation marked this offering. The Treasury reserved the right to increase the issue price after April 29. Evidently the object was to drive people into a hasty decision to exchange their Liberties for the new issue. This device had no great effect, however, and the Treasury did not avail itself of its privilege until May 3, when the price was raised to 100½.

It was in connection with another innovation, namely, the offering of long-term bonds to the highest bidders, that the Treasury encountered its only major difficulty in 1935 so far as the marketing of its new issues was concerned. The first of these issues, as shown by Table VI, was in the latter part of May. This and three succeeding monthly issues of about $100,000,000 each were fairly well received by the banks and other investors and were oversubscribed, though it was noted in financial circles that the oversubscription was less generous than in the case of bonds offered at a fixed price.

In August, however, the market for government bonds experienced a moderate reaction, and an issue of $100,000,000 Federal Farm Mortgage bonds offered for sale on Aug. 29 on a discount basis received bids for only $85,592,000. Previous to this episode, which caused mild consternation at the moment, an offering of a fifth batch of Treasury bonds, namely on Aug. 14, had received tenders for only $147,264,000, as contrasted with bids for $510,958,000 for the fourth offering at the end of July. No further untoward developments of this nature occurred, however, during the remainder of the year: the decline in the government bond market was halted and a moderate rally occurred, so that heavy oversubscriptions of new offerings again became the rule.

One strong influence of a favorable nature was the announcement by the President, on Sept. 6, of the "substantial completion" of the experimental phases of the New Deal as it affected business. The announcement was in the form of a letter to Roy W. Howard, in which the President made his famous ''breathing-spell for business'' announcement. That this development was inspired by the unfavorable August developments in the bond market cannot, of course, be proved, although fear of a collapse of the government bond market in the previous two years had plainly been the deciding factor in several administration decisions to steer a more conservative course. This announcement came at a propitious moment so far as the government bond market was concerned.

The Treasury on Oct. 11 closed the subscription books for an offering of 2¾ per cent bonds of 1945-47 in exchange for fourth-called Fourth Liberty 4¼s aggregating $1,243,000,000. With this operation the refunding of the war debt was completed. Within two years the Treasury refunded more than $6,000,000,000 of the Fourth Liberty Loan and nearly $2,000,000,000 of the First Liberty Loan. The Treasury was left with no further maturities of bonds in the next five years. Most of the long-dated obligations were not due to mature for more than eight years, with many having more than ten years to run.

Of the $8,201,000,000 of Liberty Loan issues called by the Treasury since the retirement program was inaugurated on Oct. 12, 1933, a total of $5,059,000,000, or 61.7 per cent, has been exchanged for new bonds, $1,889,000,000, or 23.0 per cent, has been exchanged for new notes, and $1,253,000,000, or 15.3 per cent, has been redeemed in cash. With reference to the amount which the holders of Liberty bonds demanded to be paid off in cash, the successive refundings were progressively less faborably received. In response to the first exchange offer, issued Oct. 12, 1933, only 9.4 per cent of the called bonds had to be paid off in cash; but on the final offer, issued Sept. 3, 1935, 19.7 per cent had to be paid off in cash. Table VII, taken from the *Federal Reserve Bulletin*, gives a complete classification of the maturities of outstanding government obligations.

TABLE VII. MATURITIES OF THE DEBT OUTSTANDING OCT. 31, 1935

(Millions of Dollars)

1936	Bonds[1]	Notes	Certificates	Bills	Total
Obligations maturing:	17	20	12	17	20
Before Jan. 1	.....	418	.....	250	669
Jan. 1-Mar. 31	.....	.....	.....	1,053	1,053
Apr. 1-June 30	.....	1,245	.....	651	1,896
July 1-Sep. 30	.....	878	.....	450	1,329
Oct. 1-Dec. 31	.....	358	.....	.....	358
1937	.....	1,749	.....	.....	1,749
1938	.....	1,946	.....	.....	1,946
1939	.....	2,762	.....	.....	2,762
1940	.....	2,117	.....	.....	2,117
1941	834	.....	.....	.....	834
1943	898	.....	.....	.....	898
1945	1,401	.....	.....	.....	1,401
After 1945	10,618	.....	.....	.....	10,618
Other obligations[2]	257	484	249	.....	990
Total	14,008	11,957	249	2,404	28,617

[1] Issues classified as of date of final maturity; most issues callable at earlier dates; postal savings bonds only issues callable before 1940.

[2] Includes United States savings bonds and such issues as postal savings bonds, retirement fund notes and adjusted service certificate series, in which special funds are invested.

With the Oct. 15 refunding taken care of, T. Jefferson Coolidge, who was then Acting Secretary of the Treasury, stated that he saw ''no indication of new Treasury financing in the near future aside from the usual weekly bill issues.'' The Treasury in October came to rely more heavily than ever before on bill issues: new offerings exceeded maturities by

$250,000,000. Mr. Coolidge explained on Oct. 21 that the Treasury expected to pay off these bills out of income tax receipts. ''March 16,'' said he, ''is our biggest tax-payment date, and we plan to pay off those bills out of the tax receipts. We think it [the March income tax revenue] will be bigger than last year. Corporations are earning more money.''

Putting this idea into practice, the Treasury for nine consecutive weeks sold offerings of $50,000,000 each and set the maturity date for each and every offering on Mar. 16, 1936. In all, $450,000,000 was sold. The last in this series was dated Nov. 27, when the Treasury indicated it was going back to its old practice of selling $50,000,000 a week to meet its running schedule of maturities.

Tables VIII and IX give the net result of the Treasury's operations in 1935 and prior years. These figures speak for themselves, though it may not be inappropriate to call attention to the continued tendency, in spite of a temporary postponement of long-term maturities through the refunding of all Liberty bonds, toward a concentration of government obligations in short-term issues. This is particularly true with respect to Treasury bills, which now constitute a revolving fund of huge proportions. The lodgment of so large a proportion of the debt in the form of a floating debt enables the Treasury to borrow at extraordinarily low rates so long as the money market is not upset by any untoward development; but it is precisely for the reason that sooner or later the money market always is upset, or at least always has been in the past, that governments in all times and places have sought to keep their floating debts at a minimum, or, having incurred them to finance wars or other emergencies, to reduce them. It would be dogmatic to venture any predictions as to the soundness or unsoundness, so far as the near future is concerned, of the division of the government debt as shown by Tables VIII and IX.

TABLE VIII. THE GROSS DEBT OF THE UNITED STATES

(End of Each Month, Millions of Dollars)

	Bonds	Notes	Certificates	Bills	Interest Bearing Total	Matured Debt[1]	Other Non-Interest[2]	Gross Debt
1934								
January	15,597	5,627	2,280	1,214	24,717	54	297	25,068
February	15,579	6,472	2,278	1,379	25,707	48	297	26,052
March	15,579	6,925	1,816	1,378	25,698	60	400	26,158
April	15,717	6,689	1,814	1,378	25,599	53	467	26,118
May	15,695	6,678	1,819	1,404	25,588	59	509	26,155
June	16,510	6,932	1,635	1,404	26,480	54	518	27,053
July	16,516	6,951	1,683	1,454	26,605	57	527	27,189
August	16,513	6,921	1,682	1,379	26,495	66	519	27,080
September	15,922	8,020	1,156	1,529	26,626	54	510	27,190
October	15,808	8,027	1,154	1,654	26,643	48	497	27,188
November	15,768	8,036	1,153	1,804	26,761	47	491	27,299
December	16,245	9,586	158	1,954	27,944	50	484	28,479
1935								
January	16,250	9,585	163	1,954	27,952	50	474	28,476
February	16,247	9,582	161	1,979	27,969	52	505	28,526
March	16,238	9,567	160	2,079	28,043	75	700	28,817
April	15,394	10,236	158	1,978	27,766	67	835	28,668
May	15,157	10,471	157	1,953	27,738	69	832	28,638
June	14,936	10,501	156	2,053	27,645	231	825	28,701
July	14,576	11,065	254	2,028	27,923	185	1,011	29,120
August	14,715	11,036	252	1,952	27,956	184	892	29,033
September	14,299	11,929	251	1,952	28,432	146	843	29,421
October	13,998	11,929	250	2,204	28,380	284	797	29,462
November	14,008	11,957	249	2,404	28,617	253	764	29,634
December	14,672	12,274	247	2,404	29,596	224	737	30,557

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[1] On which interest has ceased.

[2] Consists mainly of U. S. notes, less gold reserve, and deposits for retirement of national bank and Federal Reserve Bank notes.

TABLE IX. PERCENTAGE DISTRIBUTION OF THE GROSS PUBLIC DEBT OF THE UNITED STATES AT SIGNIFICANT DATES

	Bonds	Notes	Certificates	Bills	Interest Bearing Total	Matured Debt[1]	Other Non-Interest[2]
June 30, 1930	74.8	14.8	7.8	1.0	98.4	0.2	1.4
June 30, 1931	80.5	3.7	11.5	2.6	98.3	0.3	1.4
June 30, 1932	73.1	7.5	14.5	3.2	98.3	0.3	1.4
Feb. 28, 1933	68.0	17.1	10.2	3.1	98.3	0.3	1.4
June 30, 1933	63.1	21.2	9.8	4.2	98.3	0.3	1.4
Dec. 31, 1933	65.4	21.5	7.4	4.2	98.5	0.3	1.3
June 30, 1934	61.0	25.6	6.0	5.2	97.9	0.2	1.9
Dec. 31, 1934	57.0	33.7	0.6	6.9	98.1	0.2	1.7
June 30, 1935	52.0	36.6	0.5	7.2	96.3	0.8	2.9
Dec. 31, 1935	48.0	40.2	0.8	7.9	96.9	0.7	2.4

[1] On which interest has ceased.

[2] Consists mainly of U. S. notes, less gold reserve, and deposits for retirement of national bank and Federal Reserve Bank notes.

There is, however, one other aspect of this matter that bears examination. In the 1934 volume of THE AMERICAN YEAR BOOK the opinion was ventured that about one-half the entire public debt was held by the banks. The FDIC (Federal Deposit Insurance Corporation) now affords more nearly complete semi-annual condition statements than ever before available. These statements cover all but about 6 per cent of all the banks in the country in point of number and all but about 0.5 per cent in point of resources. On June 29, 1935, according to the FDIC statement, the insured banks held $10,476,000,000 in United States Government direct obligations. To this total should be added the total held by the Federal Reserve Banks, $2,433,000,000, making $13,909,000,000 of the interest-bearing debt lodged in the banking system. This is 50.3 per cent. In addition, the probability is that the uninsured banks, consisting partly of mutual savings banks, held considerable quantities of government securities, so that there is direct evidence that the proportion of the debt lodged in the banking system is now well over 50 per cent. The disadvantages of this state of affairs were discussed a year ago and are well known.

That the Administration sensed the danger of this situation is indicated by the fact that one of the first acts of the Seventy-fourth Congress, which convened Jan. 3, 1935, was to pass an administration bill increasing the borrowing power of the Treasury, making the limit $45,000,000,000. This bill, amending the Second Liberty Bond Act, provided also for the issue of new government obligations (approximately, it was stated, $11,500,000,000) comprising Treasury bonds and "United States savings bonds", the latter being the so-called "baby bonds" which, meeting with poor response from the public, the Treasury later in the year attempted to sell by means of magazine advertising and a nationwide mail-order campaign, using for prospects, it was said, the hitherto supposedly confidential income tax lists. The fruitlessness of efforts to get the public debt into the hands of individual investors is indicated by the fact that on Dec. 31, 1935, there were only $153,477,488 of them outstanding.

THE BUDGET

On Jan. 6, 1936, President Roosevelt submitted the budget for the fiscal year ending June 30, 1937. It provided a balanced "regular" budget but a deficit of $1,000,000,000 with respect to work relief expenditures. Mr. Roosevelt withheld estimates of the size of the work relief appropriation to be sought in the spring of 1936. He said that the appropriation would be "far less" than the $4,880,000,000 which Congress voted in 1935.

The budget message forecast the second largest annual revenue in the history of the country: $5,654,000,-

000. The budget itself showed that there was every likelihood that the national debt would reach $31,000,000,000 in 1937. Mr. Roosevelt promised only that the 1937 deficit would be less than the deficit for 1936, which at the time he submitted his budget message he estimated at $3,234,000,000. One reason the President could make this promise with considerable assurance was, of course, the fact that there remained unexpended from previous appropriations a combined total of $6,615,938,821. The details of these unexpended balances are given in Table X.

TABLE X. EMERGENCY APPROPRIATIONS, EXPENDITURES AND UNEXPENDED BALANCES, DEC. 31, 1935

(Millions of Dollars)

	Appropriations				RFC	Total	Expenditures by Fiscal Years		Unexpended
	Specific	Statutory and Executive Allocations					1936	1935 and Prin. Yrs.	
		NIRA of June 16, 1933	Emergency Appropriations of						
			June 19, 1934	Apr. 8, 1935					
Agricultural aid:									
AAA	1,819	38	....	....	....	1,857	376	1,033	447
Less processing tax	940	....	....	....	....	940	65	874	....
Net	880	38	....	....	....	917	311	159	447
Commodity Credit Corp.	....	3	....	....	517	520	155	104	261
Farm Credit Administration	80	60	134	....	316	589	−30	423	196
Federal Farm Mortgage Corp.	....	....	....	....	200	200	....	200	....
Federal land banks:									
Capital Stock	125	....	....	....	....	125	−2	125	2
Paid-in Surplus	145	....	....	....	....	145	17	74	54
Reduction in interest rates on mortgages	59	....	....	....	....	59	11	20	28
Total Federal land banks	329	....	....	....	....	329	26	219	84
Total Agricultural aid	1,289	101	134	....	1,033	2,555	462	1,105	988
Relief:									
Fed. Emerg. Relief Admin. }	605	152	481	936	911	3,085	{ 452	2,443 }	65
Fed. Surplus Relief Admin. }							{ 8	117 }	
Civil Works Admin.	345	400	....	....	89	834	....	816	17
Emergency Conservation Works	93	323	326	527	....	1,270	319	767	183
Dept. of Agriculture relief	....	....	93	....	....	93	2	81	10
Total Relief	1,043	875	900	1,463	1,000	5,282	781	4,224	275
Public Works (including work relief)									
Boulder Canyon project	18	44	3	13	....	78	8	43	28
Loans and grants to States, Municipal, etc.	....	451	142	344	....	937	−16	216	737
Loans to railroads	....	197	....	....	....	197	−50	137	110
Public highways	255	437	2	500	....	1,193	140	585	467
River and harbor work	....	253	95	131	....	478	79	220	179
Rural Electrification Admin.	....	....	....	9	....	9	....	....	9
Works Progress Admin.	....	....	....	1,172	....	1,172	215	....	956
All others	72	784	80	328	....	1,265	190	461	614
Total Public Works	345	2,166	322	2,497	....	5,329	566	1,662	3,100

	Appropriations				RFC	Total	Expenditures by Fiscal Years		Unexpended
	Specific	Statutory and Executive Allocations					1936	1935 and Prin. Yrs.	
		NIRA of June 16, 1933	Emergency Appropriations of						
			June 19, 1934	Apr. 8, 1935					
Aids to home owners:									
Home-loan system:									
Home-loan bank stock	....	....	....	....	125	125	13	82	31
Home Owners' Loan Corp.	....	....	....	....	200	200	....	200	....
Federal Savings and Loan Assoc.	50	....	....	....	....	50	20	30	....
Total Home-loan	50	....	....	....	325	375	33	312	31
Emergency housing	....	32	....	104	....	136	18	7	111
Federal Housing Administration	....	1	....	....	39	40	6	16	18
Resettlement Administration	....	39	3	181	....	223	23	2	199
Subsistence homesteads	....	7	....	....	....	7	....	6	....
Total Aids to home-owners	50	79	3	285	364	781	80	343	359
Miscellaneous:									
Export-Import Banks of Washington	....	1	....	....	35	36	6	....	30
Federal Deposit Insurance Corp.	150	....	....	....	....	150	....	150	....
Administration for Ind. Rec.	....	19	5	....	....	24	5	19	....
RFC (direct loans and expend.)	....	....	....	....	4,036	4,036	2	2,276	1,757
Tennessee Valley Authority	....	50	25	....	....	75	25	47	3
Total miscellaneous	150	70	30	....	4,071	4,321	38	2,492	1,790
Total	2,877	3,291	1,387	4,245	6,468	18,268	1,928	9,828	6,512
Unallocated funds:									
By the President	....	....	35	55	....	90	....	....	90
By PWA	....	9	5	....	....	14	....	....	14
Total Unallocated funds	....	9	40	55	....	104	....	....	104
Grand Total	2,877	3,300	1,426	4,300	6,468	18,371	1,928	9,828	6,616

An outstanding feature of the budget message was a request for $1,000,000,000 for national defence. This was foreshadowed by the President's annual message to Congress on Jan. 3, 1936, when he called attention to the threat of war which he attributed to the nations which had adopted dictatorships and abandoned democratic forms of government.

The President also revealed a fundamental change in New Deal policy by announcing that the AAA (simultaneously declared unconstitutional by the Supreme Court), the Civilian Conservation Corps and the major public works programs of the future had been shifted from the emergency category to the classification of "general" expenditures. This plainly implied making these agencies permanent branches of the Government. He also asked for an appropriation of $405,000,000 to start the nation on a permanent national planning policy, a policy which one Washington dispatch described as being designed "to remake the face of nature". He announced, however, that there would be no further appropriations for loans and grants to cities and states, although Secretary of the Interior Ickes was expected to continue to keep his revolving public works fund revolving.

Table XI gives a general summary of the National budget and Table XII gives the budget estimates in greater detail. An examination of these figures shows that in spite of the President's glowing description of how expenditures had been held below previous budget estimates, the expenses of government have grown and are expected to continue to grow at a terrific rate. This, of course, is the inevitable result of the establishment of a vast bureaucracy.

TABLE XI. GENERAL SUMMARY OF THE NATIONAL BUDGET

Balanced Statement as Required by the Budget and Accounting Act
(U. S. C., Title 31, Sec. 11 (F)).

General and Special Accounts	Estimated, Fiscal Year 1937	Estimated, Fiscal Year 1936	Actual, Fiscal Year 1935
I. Receipts:			
1. Revenues			
Internal revenue	$5,140,114,000	$3,874,845,000	$3,277,690,027.82
Customs	354,000,000	353,191,000	343,353,033.56
Miscellaneous revenues	155,142,606	178,772,055	169,002,670.88
Total revenues	$5,649,256,606	$4,406,808,055	$3,790,045,732.26
2. Realization upon assets	4,961,044	3,985,891	10,421,469.70
Total receipts	$5,654,217,650	$4,410,793,946	$3,800,467,201.96
II. Expenditures:			
1. Legislative, judicial and executive	$ 41,835,627	$ 39,153,180	$ 36,225,190.26
2. Civil departments and agencies	1,006,220,145	703,780,103	513,358,167.68
3. National defense	937,791,966	744,839,588	533,597,243.04
4. Veterans' pensions and benefits	790,058,900	717,822,280	605,573,274.31
5. Agricultural Adjustment Act*	619,347,000	621,127,000	743,027,311.27
6. Civilian Conservation Corps	220,000,000	528,383,000	435,508,643.05
7. Debt charges:			
Interest	805,000,000	742,000,000	820,926,353.45
Retirements	580,125,000	552,025,000	573,558,250.00
8. Refunds	49,403,100	47,103,000	45,247,679.31
9. Recovery and relief	1,102,824.632	2,869,068,187	3,068,803,053.20
10. Supplemental items (for above groups 1 to 6, inclusive)	600,000,000	80,000,000	....
Total expenditures	$6,752,606,370	$7,645,301,338	$7,375,825,165.57
III. Deficit	$1,098,388,720	$3,234,507,392	$3,575,357,963.61
IV. Means of financing deficit:			
1. Decrease in working balance (general and special accounts)	....	....	$1,262,632,853.56
2. Borrowings	$1,098,388,720	$3,234,507,392	2,312,725,110.05
Total means of financing	$1,098,388,720	$3,234,507,392	$3,575,357,963.61

* All expenditures under the Agricultural Adjustment Act are included under this heading.

TABLE XII. TREASURY RECEIPTS AND EXPENDITURES FOR FISCAL YEAR 1935 AND ESTIMATED RECEIPTS AND EXPENDITURES FOR 1936 AND 1937

[Included in the Summary Budget Statements.

RECEIPTS

Ordinary revenues and other receipts belonging to general and special accounts, excluding postal revenues.]

General and Special Accounts	Estimated, Fiscal Year 1937	Estimated, Fiscal Year 1936	Actual, Fiscal Year 1935
I. Revenues:			
1. Internal revenue:			
(1) Income tax	$1,942,600,000	$1,434,112,000	[2]$1,099,118,637.90
(2) Miscellaneous internal-revenue taxes:			
Estate tax	268,000,000	191,000,000	140,440,682.34
Gift tax	25,000,000	60,000,000	71,671,276.89
Capital stock and excess-profits taxes	168,000,000	102,000,000	98,068,603.93
Alcoholic beverage taxes	554,800,000	503,140,000	411,021,772.35
Tobacco taxes	504,044,000	478,370,000	459,178,625.46
Stamp taxes	90,400,000	66,700,000	43,133,373 45
Manufacturers' excise taxes	393,370,000	364,790,000	341,999,395.97
Sundry taxes	99,500,000	90,300,000	108,469,100.85
Total (unadjusted)	$2,103,114,000	$1,856,300,000	$1,673,982,831.24
Adjustment to daily Treasury statement	....	+16,791,000	−16,791,312.54
Total miscellaneous internal-revenue taxes	$2,103,114,000	$1,873,091,000	$1,657,191,518.70
(3) Processing taxes (Agricultural Adjustment Administration)	547,300,000	529,042,000	[2]521,379,871.22
(4) Other internal-revenue taxes:			
Railroad employes' retirement taxes	101,600,000	33,000,000	....
Bituminous coal tax	12,300,000	5,600,000	....
Social security taxes (Public, No. 271, approved Aug. 14, 1935)	433,200,000	....	....
Total other internal-revenue taxes	$547,100,000	$38,600,000	....
Total internal-revenue	$5,140,114,000	$3,874,845,000	$3,277,690,027.82

General and Special Accounts	Estimated, Fiscal Year 1937	Estimated, Fiscal Year 1936	Actual, Fiscal Year 1935
2. Customs	354,000,000	353,191,000	343,353,033.56
3. Miscellaneous revenues:			
(1) Miscellaneous taxes	2,351,500	3,048,500	6,667,934.90
(2) Interest, exchange and dividends	59,579,028	78,124,597	32,797,013.42
(3) Fines and penalties	1,026,845	1,040,745	6,658,214.55
(4) Fees	15,123,649	14,298,179	12,354,030.03
(5) Forfeitures	1,404,535	1,519,415	1,947,074.64
(6) Assessments	2,657,104	2,394,920	1,433,694.65
(7) Reimbursements	8,247,228	6,614,998	5,620,509.79
(8) Gifts and contributions	4,910	5,010	113,202.27
(9) Sales of products	2,814,546	9,043,521	2,392,766.70
(10) Sales of services	28,330,621	28,279,221	27,467,888.08
(11) Rents and royalties	5,192,685	5,227,685	5,159,631.59
(12) Permits, privileges and licenses	2,052,455	1,932,764	1,826,538.54
(13) Sundry receipts	26,357,500	27,242,500	65,877,808.26
Total (unadjusted)	$155,142,606	$178,772,055	$170,316,407.42
Adjustment to daily Treasury statement	....	....	−1,313,736.54
Total miscellaneous revenues	$155,142,606	$178,772,055	$169,002,670.88
Total revenues	$5,649,256,606	$4,406,808,055	$3,790,045,732.26
II. Realization Upon Assets:			
1. Repayments of investments	3,633,219	1,873,323	7,320,403.67
2. Sales of public lands, Department of the Interior	75,000	75,000	86,757.46
3. Sales of government property	1,252,825	2,037,568	3,014,308.57
Total realization upon assets	$4,961,044	$3,985,891	$10,421,469.70
Total receipts, general and special accounts	$5,654,217,650	$4,410,793,946	[2]$3,800,467,201.96

EXPENDITURES

(Estimated and actual expenditures from general and special accounts.)

General and Special Accounts	Estimated, Fiscal Year 1937	Estimated, Fiscal Year 1936	Actual, Fiscal Year 1935
I. Legislative, judicial and executive:			
1. Legislative establishment	$23,603,977	$22,021,530	$19,623,726.95
2. Judiciary	17,800,000	16,700,000	16,143,769.54
3. Executive Office	431,650	431,650	457,693.77
Total, legislative, judicial and executive	$41,835,627	$39,153,180	$36,225,190.26
II. Civil departments and agencies:			
1. Department of Agriculture	167,116,896	105,267,400	62,036,811.90
2. Department of Commerce	33,253,600	30,905,645	10,967,463.76
[illegible]. Department of Interior	111,525,400	71,121,200	55,211,498.12
Boulder Canyon project	16,600,000	13,000,000	....
4. Department of Justice (except the judiciary, I, 2, above)	22,700,000	18,350,000	16,134,907.97
5. Department of Labor	24,185,000	15,000,500	13,012,157.65
6. Department of State	18,762,000	16,984,167	15,860,779.62
7. Treasury Department (except debt retirement, interest and refunds, VII and VIII below)	192,186,100	144,192,200	147,132,321.61
8. War Department (non-military)	141,110,000	75,796,100	57,246,869.33
Panama Canal	11,294,500	11,189,500	8,766,204.74
9. Independent Officers and Establishments	91,117,200	44,528,051	44,391,279.57
10. Tennessee Valley Authority	45,000,000	20,398,386	....
11. General public works annual program[3]	(322,367,000)	(94,316,386)	....
12. Retirement funds, civil, Canal Zone and Foreign Service (Government share)	46,735,300	40,662,400	21,009,100.00
13. Postoffice Department, deficiency (from Annexed Budget)	78,934,149	90,677,054	63,956,146.64
14. District of Columbia, contribution (from Annexed Budget)	5,700,000	5,707,500	4,539,295.00
Unclassified items	....	....	[1]490,365.40
Adjustment disbursing officer's checks outstanding	....	....	−6,416,302.83
Total, civil departments and agencies	$1,006,220,145	$703,780,103	$513,358,167.68

General and Special Accounts	Estimated, Fiscal Year 1937	Estimated, Fiscal Year 1936	Actual, Fiscal Year 1935
III. National defense:			
1. Navy Department	567,872,400	425,350,500	321,410,530.43
2. War Department	369,919,566	319,489,088	212,186,712.61
Total, national defense	$937,791,966	$744,839,588	$533,597,243.04
IV. Veterans' pensions and benefits:			
Veterans' Administration	790,058,900	717,822,280	605,573,274.31
V. Agricultural Adjustment Administration	577,347,000	598,127,000	711,819,102.95
Refunds of processing taxes	42,000,000	23,000,000	31,208,208.32
Total, Agricultural Adjustment Act	$619,347,000	$621,127,000	$743,027,311.27
VI. Civilian Conservation Corps	220,000,000	528,383,000	435,508,643.05
VII. Debt charges:			
1. Interest	805,000,000	742,000,000	820,926,353.45
2. Retirements	580,125,000	552,025,000	573,558,250.00
Total, debt charges	$1,385,125,000	$1,294,025,000	$1,394,484,603.45
VIII. Refunds:			
1. Customs	17,000,000	13,500,000	20,715,688.49
2. Internal revenue	32,403,100	33,603,000	24,531,990.82
Total, refunds	$49,403,100	$47,103,000	$45,247,679.31
IX. Recovery and relief:			
1. Agricultural aid:			
(1) Commodity Credit Corporation	[1]165,346,900	161,498,000	[1]60,144,064.86
(2) Farm Credit Administration (including Federal Farm Mortgage Corporation)	[1]24,792,200	[1]62,023,860	141,500,814.96
(3) Federal land banks	64,000,000	65,000,000	46,107,860.54
Total, agricultural aids	[1]$126,139,100	$164,474,140	$127,464,610.64
2. Relief:			
(1) Federal Emergency Relief Administration (including Federal Surplus Relief Corporation)	....	424,351,700	1,814,342,306.87
(2) Civil Works Administration	....	469,100	11,327,263.67
(3) Drought-stricken areas (Department of Agriculture)	....	4,238,000	80,561,249.99
Total, relief	....	$429,058,800	$1,906,230,820.53

General and Special Accounts	Estimated, Fiscal Year 1937	Estimated, Fiscal Year 1936	Actual, Fiscal Year 1935
3. Public works:			
(1) Administrative expenses, Public Works Administration	15,000,000	20,000,000	14,561,002.60
(2) Boulder Canyon project	9,100,000	15,755,300	23,820,507.04
(3) Loans and grants to states, municipalities, &c	325,756,000	52,450,000	137,707,417.46
(4) Loans to railroads	....	40,000,000	66,230,752.95
(5) Public highways	236,518,000	276,543,000	317,356,940.05
(6) River and harbor works	84,511,000	150,510,000	147,924,751.64
(7) Rural Electrification Administration	2,500,000	5,000,000	16,820.93
(8) Works Progress Administration	....	1,000,000,000	....
(9) Other public works (national defense, public buildings, &c.)	214,578,732	409,735,466	312,793,647.83
Total, public works	$887,963,732	$1,969,993,766	$1,020,411,840.50
4. Aids to home owners:			
(1) Home loan system	....	57,402,300	75,686,784.08
(2) Emergency housing	61,000,000	49,000,000	6,479,835.47
(3) Federal Housing Administration	20,000,000	14,082,985	15,963,873.02
(4) Resettlement Administration	150,000,000	73,200,000	1,761,663.06
(5) Subsistence homesteads	....	900,000	3,661,937.71
Total, aids to home owners	$231,000,000	$194,585,285	$103,554,093.34
5. Miscellaneous:			
(1) Export-Import Banks of Washington	10,000,000	17,118,582	[1]2,616,496.63
(2) Federal Deposit Insurance Corporation	....	....	497,850.35
(3) Administration for industrial recovery	....	4,236,000	12,496,730.81
Total, miscellaneous	$10,000,000	$21,354,582	$10,378,084.53
6. Reconstruction Finance Corporation	[1]125,000,000	[1]215,000,000	[1]135,384,933.68
7. Tennessee Valley Authority	....	29,601,614	36,148,537.34
8. Unallocated funds available, Oct. 31, 1935 and thereafter	225,000,000	275,000,000	....
Total, recovery and relief	$1,102,824,632	$2,869,068,187	$3,068,803,053.20
X. Supplemental items	600,000,000	80,000,000	....
Total, expenditures	$6,752,606,370	$7,645,301,338	$7,375,825,165.57

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[1] Excess of credits, deduct.
[2] Daily treasury statement basis.
[3] General Public Works Program estimates distributed to various departments and establishments in Classes I to IV.

The first part of the budget message was devoted to a defense of the spending program as a method of getting the country back on its feet from the depression. Pointing to the great increase that had occurred in Federal revenues, and in employment, the President tried to prove that the spending program had been a success. The second part was devoted to several recommendations of a more or less technical nature having to do with the repeal of one of the amendments to the Agricultural Adjustment Act and with the apportionment of appropriations. The third part was a review of receipts and expenditures in the fiscal year 1935 and an analysis covering the fiscal year 1936. Favorable aspects were heavily emphasized, such as excess of RFC repayments over loans. Legislation enacted by the first session of the Seventy-fourth Congress made it necessary for the President to ask for new appropriations aggregating $667,000,000. But the decision of the Supreme Court declaring the AAA unconstitutional upset calculations because the President had counted on receipts of $547,300,000 from the processing tax. In addition, some observers believed that the decision made the Treasury liable for the refund of the approximately $1,000,000,000 in processing taxes already collected. The budget was further thrown out of balance by the fact that the Supreme Court decision enhanced the probability that other activities covered in the budget message, such as the Bituminous Coal Conservation Act, the Social Security Act and the Railroad Retirement Pension Act, which provided for means of raising revenues by special taxes, would also be declared unconstitutional. Intelligent analysis of the President's budget message of Jan. 6, 1936, would, therefore, require more time than is available for the purposes of this review. For the sake of the record, however, Table XIII, showing estimated appropriations, is appended.

TABLE XIII. NECESSARY APPROPRIATIONS FOR FISCAL YEAR 1937

Social Security Act	$479,689,840
Railroad Retirement Act	47,645,000
Bituminous Coal Conservation Act	1,155,000
Amendments, pension laws	45,581,132
Postal 40-hour week	27,326,420
Elimination diseased cattle	17,500,000
Soil conservation	27,500,000
Agricultural research and extension	11,000,000
Reduction interest rate, Federal land banks	10,065,075
Total	$667,462,467
Estimated receipts from taxes under the Social Security Act, the act levying taxes upon carriers and their employes, and the Bituminous Coal Conservation Act	$547,100,000

TAXATION

Secretary of the Treasury Morgenthau announced on Dec. 20, 1934, that the Treasury, under instruction from President Roosevelt, planned to make a national survey in order to eliminate overlapping Federal, state and local taxation. He added that he hoped the investigation would disclose enough information to enable the President to call a conference next summer of state and local taxing authorities, to be followed by the presentation of remedial legislation to Congress in 1936. On Dec. 21, 1934, it was reported that Mr. Morgenthau intended to present to Congress legislation to remove tax exemption on future issues of Federal, state and municipal bonds. The problem of tax-exempt securities was said to be the most important subject in connection with the nationwide survey.

Although the President had previously indicated that there was no intention of asking for tax legislation in 1935, on June 19 he laid before Congress a new taxation program providing for inheritance taxes on large bequests in addition to the estate taxes already being levied; increased gift taxes to prevent evasions, a definite increase in taxes levied upon very large individual net incomes; and a graduated scale of taxes for corporations instead of the flat corporation rate of 13¾ per cent. The President attempted to have this measure rushed through Congress, at a time when every effort was being made to bring about adjournment, by having attached to it a joint resolution extending certain nuisance taxes which would have had to be passed by June 30 to prevent their expiration. The Congress refused to be railroaded in this manner and extended the nuisance taxes without acting on the new tax proposals.

The President nevertheless insisted on a revenue bill. Congress balked for two reasons. First, the members of that body did not relish the prospect of prolonged deliberations in the hot summer months. Second, many of them suspected, and a few openly asserted, that the Administration bill was not essentially a revenue measure but was a ''share-the-wealth'' scheme designed to steal some of the thunder from Huey Long and advocates of various other similar punitive taxes. As finally signed by the President on Aug. 30, the new tax law was expected to yield $250,000,000 annually. Its main provisions consisted of steeper surtaxes on incomes in excess of $50,000, gift taxes to prevent evasion of estate taxes and a graduated tax on corporate net income.

The Act also included a higher tax rate on the undistributed net income of personal holding companies in order to make them conform to the higher levies on the individual surtaxes. The tax was a graduated one running from 20 per cent on net income of not more than $2,000 to 60 per cent on net income over $1,000,000. The total revenue from this tax plus the imposts on the estate, gift and personal income taxes were estimated at $147,000,000. The remaining revenue was calculated to come from the increased tax on corporate net income (ranging from 12½ per cent on income up to $2,000 to 15 per cent in excess of $40,000), on capital stock ($1.40 per $1000 of declared value), on excess profits and on intercorporate dividends.

The personal income and estate taxes will undoubtedly stimulate the demand for tax exempt securities as well as provide greater incentive to avoid tax payment (and perhaps inculcate a general disrespect of the law). The graduated taxes on corporate incomes and the graduated excess profits tax are obviously unfair to small stockholders of large corporations.

In his budget message of Jan. 6, 1936, the President stated that no new taxes would be required on the basis of his budget estimates. He stated, however, that if Congress enacted any legislation requiring additional appropriations, it should find means to provide the necessary revenue. This was interpreted to mean, in particular, that if, as seemed likely, a soldiers' bonus bill was passed, the President would not approve it unless new tax legislation accompanied it.

STATE FINANCE

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THE SALES TAX

The problem of finance in the states has been much the same as that of other governmental units. More demands have been made upon the states and the existing sources of revenue have been unable to supply the needs. The most marked development has been the turn to new sources, especially to the sales tax. The following discussion attempts to portray the condition of state finances as nearly as possible as it exists at the present.

The sales tax continues to be looked upon as a source of emergency revenue. Seven additional states in 1935 were added to the list of those previously using the tax—Arkansas, Colorado, Idaho, Maryland, New Jersey, North Dakota, and Wyoming. Previous laws were extended by Arizona, Missouri, New Mexico, North Carolina, Oklahoma, South Dakota, Virginia, and Washington. (New Jersey repealed sales tax Nov. 1.)

A tendency is noted to extend the base beyond the former retail sales of tangible personal property. Thus certain services of utilities are now taxed by Arkansas, Colorado, Idaho, North Dakota, and Wyoming. Amusements are now taxed by Arkansas, Idaho, North Dakota, and Wyoming. Illinois extended the tax to cover the receipts from telegraph, telephone, water, gas, and electric service.

An attempt is also being made to prevent evasion through purchases without the state of levy. Thus the regular sales tax rate is imposed by California on the storage, use, or other consumption of tangible personal property that has not paid the sales tax. Washington imposes its sales tax rate for the privilege of using any articles coming from without the state which cost more than $20. Oklahoma applies its levy upon goods brought into the state by consumers 24 hours after the original package is broken. Maryland, New Jersey, North Carolina, Ohio, Oklahoma, and West Virginia require evidence of sales tax payment on automobiles as a prerequisite to first registration.

It is obviously impossible to give the details of the sales tax provisions in each state. The following, however, will indicate the general nature of the law in effect:

Arizona:	Levy upon gross proceeds of sales. Manufacturers, 1%; motor carriers, 1%; mining, etc., 1%; electrical energy, carriers, telephones, 1%; sale of tangible personal property at retail, 1½%.
Arkansas:	Levy upon retail sale of tangible personal property of 2%. Extends to utility services.
California:	Levy upon privilege of selling tangible personal property at retail, 3% on gross sales. Extends to use of property purchased without state.
Colorado:	Levy of 2% upon receipts from sale of tangible personal property at retail. Extends to utility services.
Idaho:	Levy of 2% upon receipts from sale of tangible personal property at retail. Extends to utility services.
Illinois	Levy of 3% of gross sales for privilege of selling tangible personal property at retail. Extends to utility services.
Indiana	Levy upon gross income. Manufacturers, ¼%; wholesalers, ¼%; utilities, 1%; banks, etc., 1%; professions and all others, 1%.
Iowa	Levy of 2% upon gross receipts from retail sales.
Kentucky	Graduated tax upon gross retail sales of 3%. Extends to utilities and amusements.
Maryland	Levy of 1% on retail sales of tangible personal property.
Michigan	Levy of 3% of gross sales for privilege of engaging in sale of tangible personal property at retail.
Mississippi	Levy upon privilege of engaging in business. Natural products, 2%; gas, 2½%; manufactures, ¼ to 1%; wholesalers, 1/8%; retailers, 2%; utilities, 2%; contractors, 1%.
Missouri	Levy on privilege of selling tangible personal property. 1% of gross receipts.
New Jersey	Levy of 2% on sale of tangible personal property. (Repealed Nov. 1.)
New Mexico	Occupation tax on retail dealers. Rate ranges from ¼ of 1% to 2% depending on nature of business.
New York	Levy of 1% upon retail sales.
North Carolina	Levy on privilege of merchandising. Wholesalers, 1/25% of gross sales, minimum, $25 per year; retailers, $1 plus 3% of gross sales.
North Dakota	Levy of 2% on receipts of retail sales. Extends to public utility services.
Ohio	3% upon receipts from retail sales.
Oklahoma	Levy upon sales of tangible personal property and certain specified services and intangibles at 2%.
South Dakota	Levy upon gross income. Manufactures, ¼%; salaries 1% to 2%; wholesalers, ¼%; retailers, 2%.
Utah	Levy on sale of tangible personal property. 2% on receipts. Extends to utility services.
Washington	Levy upon gross receipts for privilege of engaging in business. Natural products, 3/10% to 1%; manufactures, ¼%; wholesalers, 1/5%; retailers, ½%; utilities, ½% to 3%.
West Virginia	Levy upon gross sales for privilege of engaging in business. Natural products, 1% to 6%; manufacturers, 3/10%; wholesalers, 3/20%; utilities, 1% to 3%; retailers, 2%.
Wyoming	Levy upon receipts from retail sales at rate of 2%.

TAXES ON OLEOMARGARINE

Oleomargarine continues to receive attention as a tax base. The legislatures of seven states enacted such a tax in 1935 which brings the total number of states levying such a tax to more than 20. In each of the seven states levying the tax this year the rate is 10 cents a pound. The states at present levying a tax upon oleomargarine, with the rates (per pound), are as follows:

Alabama	10 cents.
Arkansas	10 cents.
California	10 cents.
Colorado	10 cents; $25 license on manufacturer; $25 license on wholesaler.
Florida	10 cents.
Georgia	10 cents.
Idaho	5 cents, uncolored; 10 cents, colored. $200 license on wholesaler; $50 license on retailer.
Iowa	5 cents.
Kansas	10 cents.
Maine	10 cents.
Minnesota	10 cents; $1 license on all producers and dealers.
Nebraska	15 cents; $100 license on manufacturers; $50 license on wholesalers; $5 license on retailers.
New Mexico	10 cents.
North Carolina	10 cents.
North Dakota	10 cents; $10 license on manufacturers; $5 license on wholesalers; $2 license on retailers.
Oklahoma	10 cents; license ranging from $10 on manufacturers to $2 on boarding houses.
Tennessee	10 cents; license ranging from $5 on manufacturers to $1 on boarding houses.
Utah	5 cents, uncolored; 10 cents, colored; $5 license on retailers.
Washington	15 cents.
Wisconsin	6 cents; $1,000 license on manufacturer; $500 license on wholesaler; $25 license on retailer, hotel, restaurant; $5 license on bakery, confectionery.
Wyoming	10 cents.

STATE PERSONAL INCOME TAXES

Under legislation of 1935 five states were added to the list of those using the personal income tax, carrying the total to 30 states, a rather remarkable growth since Wisconsin adopted the tax in 1911. Other states modified their laws, generally towards increased rates, while other states are attempting to secure constitutional sanction to use an income tax.

(For digest of state personal income tax provisions see p. 243).

TAXATION OF CHAIN STORES

The legislation of 1935 added four additional states to the list of those levying special taxes on chain stores. Many other states, however, revised their laws with generally increased rates. The following table shows the states which levy taxes upon chain stores and the number of stores above which the maximum rate applies, together with the rate. In a few cases, it will be noted, the tax is levied as a gross receipts tax.

State	Maximum Rate	Applicable to stores above
Alabama	$ 75	20
California	500	10
Colorado	300	24
Florida	400	16
Idaho	500	19
Indiana	150	20
Iowa	155	50
Kentucky	1/20 of 1% gross sales	to 1% on
Louisiana	$550	500
Maine	50	25
Maryland	150	20
Michigan	250	25
Minnesota	155	50
Montana	30	10
North Carolina	225	200
South Carolina	150	30
South Dakota	10	10
Texas	750	50
West Virginia	250	75
Wisconsin	250	25

GASOLINE TAXES

In 1935 some states strengthened the administration of the gasoline tax laws. In only five states was there any increase in rates. Some changes were made in exemptions. Some states placed a limit upon the number of gallons that can be brought into the state without tax. A number of memorials to Congress are found asking for a repeal of the Federal tax. The rates in each state in 1935 with the collections for 1934 are found in the following table:

State	Cents per Gallon 1935	Collections 1934 (000 omitted)
Alabama	6	$ 9,299
Arizona	5	3,028
Arkansas	6½	7,864
California	3	35,960
Colorado	4	6,475
Connecticut	2	4,973
Delaware	4	1,185
Florida	8	16,499
Georgia	6	14,366
Idaho	5	2,871
Illinois	3	29,126
Indiana	4	17,550
Iowa	3	11,250
Kansas	3	8,516
Kentucky	5	9,218
Louisiana	5	8,923
Maine	4	4,486
Maryland	4	7,809
Massachusetts	3	17,002
Michigan	3	20,978
Minnesota	3	10,845
Mississippi	6	6,888
Missouri	2	9,575
Montana	5	3,664
Nebraska	5	8,570
Nevada	4	894
New Hampshire	4	2,746
New Jersey	3	17,034
New Mexico	5	2,557
New York	4	43,927
North Carolina	6	16,482
North Dakota	3	2,262
Ohio	4	37,618
Oklahoma	4	10,817
Oregon	5	7,252
Pennsylvania	3	33,409
Rhode Island	2	2,057
South Carolina	6	7,719
South Dakota	4	3,765
Tennessee	7	14,114
Texas	4	31,640
Utah	4	2,514
Vermont	4	1,942
Virginia	5	12,477
Washington	5	11,959
West Virginia	4	5,595
Wisconsin	4	15,399
Wyoming	4	2,063

TAXES UPON CIGARS AND CIGARETTES

More and more states are seeking to secure additional revenue by the levy of a tax upon cigars and cigarettes. After the 1935 legislation 18 states levied some such tax. These states, with the type and size of tax in each, are shown in the following table:

TAX DELINQUENCY

Property tax collections have become increasingly difficult with the adverse economic conditions. Only in the last year or two has the condition shown signs of improvement. The following table shows the condition of delinquency for state and local property tax levies for the year 1932-1933;

State	Tax Levy (000 omitted)	Per cent Delinquent
Alabama	$ 28,813	11.5
Arizona	18,815	24
Arkansas	17,137	20
California	261,052	12.5
Colorado	39,998	18
Connecticut	76,235	10
Delaware	5,420	14.5
Florida	51,320	36
Georgia	41,095	13.5
Idaho	16,350	28.5
Illinois	334,640	37
Indiana	117,329	28
Iowa	92,056	14
Kansas	66,463	14
Kentucky	48,300	11
Louisiana	46,805	7
Maine	24,897	10
Maryland	48,796	16
Massachusetts	236,044	6
Michigan	216,581	40.5
Minnesota	115,716	20
Mississippi	5,541	12
Missouri	95,311	23.5
Montana	26,354	18.5
Nebraska	49,616	14.5
Nevada	4,669	7.5
New Hampshire	16,893	17
New Jersey	257,659	19.2
New Mexico	10,803	17
New York	802,254	12.5
North Carolina	27,310	23.5
North Dakota	22,935	37.5
Ohio	201,346	26
Oklahoma	57,554	25.5
Oregon	41,997	34
Pennsylvania	360,293	23
Rhode Island	28,439	17.5
South Carolina	18,913	27
South Dakota	29,828	19
Tennessee	23,224	18
Texas	142,552	28
Utah	18,326	22.5
Vermont	9,713	10
Virginia	33,212	15.5
Washington	66,444	29.5
West Virginia	42,475	18.5
Wisconsin	86,475	30.5
Wyoming	9,321	8

DEATH DUTIES

Taxes upon the transfer of property at death have long been used by the American states. At present 36 states levy a tax upon the inheritance, eleven upon the estate, and one state, Nevada, makes no such levy. The following table shows the variation in rates found in inheritance taxes:

State	Tax on Cigars	Tax on Cigarettes
Alabama	$1 per 1000 to $13.50 per 1000 depending on retail price.	1c for each 5c retail price per package.
Arizona	1c per three to 1c per cigar depending on retail price.	2c per 20 or fraction thereof.
Arkansas	10% of retail price.	$2.50 per 1000.
Connecticut	....	1 mill per cigarette.
Georgia	10% of retail price.	10% of retail price.
Iowa	....	1 mill to 2 mills depending on size.
Kansas	....	2c per 20 or fraction thereof.
Louisiana	$2 per 1000 to $13.50 per 1000 depending on the retail price.	1/5c each cigarette.
Mississippi	1c on each 5c retail price or fraction thereof.	1c on each 5c retail price or fraction thereof.
North Dakota	....	1½ mills each and 2 mills each depending on size.
Ohio	....	1c on each 10 or fraction thereof.
Oklahoma	....	1½c per package of 10 or less to $1.50 per 1000.
Pennsylvania	....	1c per 10 cigarettes.
South Carolina	less than 3 lbs. per 1000, 1c per 10 to $10 per 1000.	1c per each 5c retail price or fraction thereof.
South Dakota	....	1½ mills each to 4 mills each depending on weight.
Tennessee	10% of retail price.	1/5c on each cigarette; 20% when retail price over 1c.
Texas	....	Less than 3 lbs. per 1000, $1.50. More than 3 lbs. per 1000, $3.50.
Utah	....	Not more than 3 lbs. per 1000, 1 mill each. More than 3 lbs. per 1000, 2 mills each.

State	Rate range direct heirs in per cent	Highest rate applies to amounts over (000 out)	Rate range collateral heirs in per cent	Highest rate applies to amounts over (000 out)
Arizona	1-5	$ 500	2-25	$ 500
Arkansas	1-10	1,000	2-40	1,000
California	1-10	500	4-12	500
Colorado	2-8	500	3-16	200
Connecticut	1-4	200	2-8	200
Delaware	1-4	200	2-8	200
Idaho	2-15	500	4-30	500
Illinois	2-14	500	6-16	500
Indiana	1-10	1,500	5-20	1,000
Iowa	1-8	300	5-15	300
Kansas	½-5	500	3-15	500
Kentucky	1-16	10,000	2-16	10,000
Louisiana	2-3	20	5-7	20
Maine	1-3	250	4-6	250
Maryland	1-1 1/5	20	7½	flat
Massachusetts	1-9	1,000	3-12	flat
Michigan	2-8	750	10-15	flat
Minnesota	1-6	100	3-20	100
Missouri	1-6	400	3-30	400
Montana	2-8	100	4-32	100
Nebraska	1	50	4-12	50
New Hampshire	none	....	7½	flat
New Jersey	1-16	3,700	5-16	3,700
New Mexico	1	5	flat	flat
North Carolina	1-12	3,000	4-25	3,000
Ohio	1-4	200	5-8	200
Pennsylvania	2	flat	10	flat
Rhode Island	½-3	1,000	5-8	1,000
South Carolina	1-6	300	2-14	300
South Dakota	2-8	100	3-20	100
Tennessee	1-7	500	5-15	500
Texas	1-6	1,000	3-20	1,000
Vermont	1-5	250	5	flat
Washington	1-10	200	2-20	200
West Virginia	3-13	1,000	4-30	1,000
Wisconsin	2-10	500	4-40	500
Wyoming	2	flat	4-6	flat

The credit extended by the Federal government has been an incentive for states to use the estate tax. The estate tax also is more easily administered. The following table shows the states which use the estate tax with rates and application:

State	Rate %	Exemption	Highest Rate applies to amounts over (000 out)
Alabama	4/5-16	$100,000	$10,000
Colorado	4/5-16	100,000	10,000
Florida	4/5-16	100,000	10,000
Georgia	4/5-16	100,000	10,000
Mississippi	4/5-16	50,000	10,000
New York	1-20	20,000	10,000
North Dakota	2-23	20,000	1,500
Oklahoma	1-10	15,000	10,000
Oregon	1-15	10,000	1,500
Rhode Island	1	10,000	flat
Utah	3-10	10,000	125

CORPORATION AND BANK TAXES

Corporations are subject to taxation in all states. A few years ago the most general method was to levy a tax upon capital stock. There has been a recent tendency towards net income as the base for the tax until at present 31 states use such a tax. The rate, however, is far from uniform as the following table of states using this method, with rates, will show:

State	Rate %
Alabama	[illegible]
Arizona	1-5
Arkansas	2
California	2
Connecticut	2
Georgia	4
Idaho	1-[illegible]
Iowa	2
Kansas	2
Louisiana	4
Massachusetts	2½
Minnesota	1-5
Mississippi	2½-6
Missouri	2
Montana	2
New Mexico	2
New York	4½
North Carolina	6
North Dakota	3
Ohio	6
Oklahoma	6
Oregon	8
Pennsylvania	6
South Carolina	4½
South Dakota	1-8
Tennessee	3
Utah	3
Vermont	2
Virginia	3
Washington	4
Wisconsin	2-6+surtax

(For digest of state corporation income tax provisions see p. 244).

Until the modification of the Federal statute, after the Richmond decision in 1921, banks were taxed upon their capital stock. The modification permits national banks to be taxed on or according to net income. While the method by which banks should be taxed is still in considerable turmoil, the following table indicates a trend to net income as a base although there is no uniformity as to rate:

State	Rate upon net income
Alabama	5
California	2-6
Idaho	1-6
Massachusetts	6
New York	4½
Oklahoma	1-6
Oregon	8
Utah	3
Wisconsin	2-6+surtax

OTHER STATE TAXES

States possess many other sources of revenue than those tabulated above. Some are relatively unimportant and others are so complex that it is impossible to show them in simple tabular form. An illustration of the latter is the taxation of commercial transportation. It is almost impossible to satisfy all the interests concerned. Thus there is the public, the commercial motor carriers and those with whom the carriers come into competition. There is wide variation of method found in the different states. Levies are made upon gross receipts, ton miles, passenger miles, carrying capacity, etc. in addition to the license to legalize operation.

In the taxation of malt and distilled liquors there is also great variation. In most states an attempt is made to regulate at the same time some revenue is forthcoming. There has been a considerable increase in the number of states that tax horse racing in some form while some tax the admission to different forms of amusement.

Practically all states continue to receive revenue from the general property tax although this continues to occupy a place of much less relative importance than in previous years. The states are inclined to raise their revenue from other sources and to leave property to be taxed by the local governmental units.

(For digest of revenue from state income taxes see p. 245).

INDEBTEDNESS OF STATES

The borrowing policy of the different states has varied considerably. In some states a definite limitation is placed upon the borrowing power by the constitution. The year 1932 is the last year for which accurate figures for each state have been compiled. The following table shows the net indebtedness (gross indebtedness less sinking fund assets), both total and per capita, for each state for the years 1912 and 1932:

State	1912		1932	
	Total (000 out)	Per Capita	Total (000 out)	Per Capita
Alabama	$13,132	$ 5.95	$ 82,342	$30.90
Arizona	3,065	13.28	3,677	8.34
Arkansas	1,236	.76	164,423	88.16
California	10,223	3.83	145,723	24.67
Colorado	3,174	3.70	6,747	6.45
Connecticut	7,111	6.12	108	.07
Delaware	763	3.70	2,072	8.63
Florida	619	.77	391	.26
Georgia	6,934	2.57	12,488	4.29
Idaho	2,143	5.92	6,961	15.61
Illinois	2,273	.39	221,404	28.58
Indiana	1,350	.49	4,730	1.45
Iowa	357	.16	16,495	6.66
Kansas	243	.14	21,810	11.53
Kentucky	4,441	1.90	16,224	6.16
Louisiana	13,546	7.89	83,743	39.41
Maine	1,255	1.67	27,219	34.02
Maryland	7,334	5.56	31,198	18.99
Massachusetts	79,551	22.78	62,856	14.69
Michigan	7,089	2.41	60,582	12.21
Minnesota	1,345	.63	40,156	15.55
Mississippi	4,461	2.41	36,319	17.94
Missouri	4,671	1.40	103,302	28.33
Montana	1,513	3.73	9,316	17.33
Nebraska	374	.31	929	.67
Nevada	608	6.70	1,370	14.89
New Hampshire	1,956	4.50	6,505	13.96
New Jersey	642	.24	62,198	15.05
New Mexico	1,218	3.41	11,407	26.53
New York	86,205	9.05	463,068	36.14
North Carolina	8,059	3.54	177,210	54.83
North Dakota	820	1.29	5,005	7.32
Ohio	5,142	1.05	7,696	1.15
Oklahoma	6,931	3.74	11,438	4.74
Oregon	31	.04	33,388	34.60
Pennsylvania	.....	.....	75,858	7.81
Rhode Island	5,127	9.02	16,807	24.15
South Carolina	6,190	3.98	77,984	44.74
South Dakota	370	.58	15,510	22.19
Tennessee	11,812	5.32	94,032	35.55
Texas	4,656	1.14	10,317	1.75
Utah	1,430	3.62	5,694	11.08
Vermont	570	1.58	9,545	26.51
Virginia	22,043	10.46	25,983	10.68
Washington	1,556	1.21	8,257	5.22
West Virginia	.....	.....	86,394	49.20
Wisconsin	2,251	.93	1,184	.40
Wyoming	122	.77	5,568	24.42

RESEARCH AND BIBLIOGRAPHY

The problems in state finance, intensified by the depression, have led to much study of the difficulties involved. Any one interested in checking on developments should consult the annual reports of State Tax Commissions as well as the special reports made by many states. These special reports are the result of studies made by a particular group appointed for this purpose.

Some of the problems of state finance have been given particular attention. One of the most troublesome, with the development of income taxes, has been that of conflicting taxation among the different states. To this problem the Interstate Commission on Conflicting Taxation has given considerable attention and the progress report on *Conflicting Taxation* depicts the development of ideas on this problem.

For those who want the facts concerning the tax systems of the different states, reference should be made to *Tax Systems of the World*, published by Commerce Clearing House, Chicago. For a discussion of tax problems reference should be made to the *Proceedings* of the National Tax Association, the *Bulletin* of the National Tax Association and to *The Tax Magazine.*

MUNICIPAL FINANCE

By H. K. Allen

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IMPROVED FINANCIAL POSITION OF CITIES

An examination of the financial condition of municipalities for the year 1935 again shows definite signs of a continuation of the improvement which began in the preceding year. This further improvement is indicated by a reduction in tax rates, a decline in tax delinquencies, a decrease in the volume of defaults, and an increase in the volume of new issues. Tax rates were decreased in part by the adoption of more efficient methods and in part by the curtailment of public service. The decline in tax delinquencies resulted from the general improvement in business conditions, from the activities of the Home Owners' Loan Corporation, and from the purchase of real estate by various Federal agencies. The reduction in the number of defaults is largely attributable to the improvement with respect to delinquencies.

EXPENDITURES

Estimates.—While reliable estimates indicate a decline in municipal expenditures for the year 1935, the most recent year for which the comprehensive statistics of the Bureau of the Census are available is for 1932. Unfortunately, the figures for 1932 and 1933 are limited to cities having a population of over 100,000. By Executive Order of June 10, 1933, the annual collection and compilation of financial statistics were limited to cities of over 100,000 population until after the fiscal year closing June 30, 1935.

MUNICIPAL EXPENDITURES

(000 omitted)
Operation and Maintenance of General Departments: 146 Cities

Year	Total	General Government	Protection to Person and Property	Health and Sanitation	Highways
1933*	$1,727,043	$142,296	$298,852	$138,921	$110,652
1932*	1,806,517	149,909	328,797	160,010	127,670
1931	2,229,492	183,171	421,055	202,502	181,314
1930	1,820,905	163,614	361,956	180,553	149,268
1929	1,730,288	140,521	339,816	174,858	147,375
1928	1,656,989	147,250	328,102	167,979	138,936
1927	1,562,615	136,848	315,362	160,259	137,892
1924	1,287,484	111,856	259,275	130,388	109,807
1922	1,155,691	105,174	234,199	115,488	98,763
1919	697,319	72,585	146,763	75,847	65,003
1917	591,399	68,912	126,854	60,378	60,712
1915	546,568	62,793	120,696	55,758	60,615
1913	496,740	58,164	112,676	50,600	55,082
1911	452,899	53,766	106,120	45,691	52,214
1907	367,367	42,703	87,885	36,899	42,718
1903	278,173	30,842	71,020	25,807	34,208

* Statistics for 1932 and 1933 are for 94 cities having a population over 100,000: All other data are for cities over 30,000.

MUNICIPAL EXPENDITURES

(Continued)

Year	Charities, Hospitals, and Corrections	Schools	Libraries	Recreation	Miscellaneous
1933	$292,212	$542,034	$19,744	$60,097	$122,235
1932	234,419	629,353	......*	63,117	113,242
1931	201,896	839,577	......*	78,952	121,027
1930	138,051	637,196	24,515	66,060	99,692
1929	116,147	622,587	23,029	61,863	94,091
1928	111,052	598,065	21,847	56,038	87,715
1927	99,806	560,668	20,167	53,839	77,731
1924	79,239	475,725	15,782	41,819	63,590
1922	76,627	422,843	14,326	38,703	49,603
1919	53,262	216,701	9,079	24,204	33,870
1917	43,911	180,259	7,570	20,636	22,164
1915	38,285	162,332	7,134	20,416	18,535
1913	32,702	141,453	6,379	18,555	21,125
1911	30,647	127,604	5,939	17,114	13,801
1907	24,408	102,395	4,989	11,794	13,572
1903	18,280	80,853	4,067	7,457	5,634

* Expenditures for libraries and schools combined in 1931 and 1932.

Per Capita Expenditures.—Some of the absolute expenditures just noted may appear large, yet little significance can be attached to them. The size of an expenditure becomes intelligible in terms of service when one discovers the number among whom it is divided. The per capita expenditures of cities, both as a whole and for particular items has varied greatly from time to time, but the general tendency has been to increase. The following table shows the change in per capita expenditures for selected years:

PER CAPITA EXPENDITURES

Year	Total	General government	Protection to person and property	Health and Sanitation	Highways	Charities, hospitals, and corrections	Education		Recreation[2]	Miscellaneous[2]
							Schools[1]	Libraries[1]		
1933	$46.08	$3.80	$7.98	$3.71	$2.95	$7.80	$14.99	..	$1.60	$3.26
1932	47.87	3.97	8.71	4.24	3.38	6.21	16.68	..	1.67	3.00
1931	46.18	3.79	8.72	4.19	3.75	4.18	17.39	..	1.63	2.51
1930	44.29	3.82	8.68	4.28	3.64	3.12	16.28	.61	1.59	2.28
1929	43.45	3.66	8.46	4.33	3.70	2.78	16.14	.59	1.55	2.25
1928	42.43	3.66	8.33	4.24	3.56	2.70	15.80	.57	1.44	2.14
1927	40.77	3.46	8.13	4.13	3.60	2.49	15.08	.53	1.40	1.94
1924	35.61	3.01	7.10	3.55	3.07	2.08	13.52	.44	1.15	1.67
1922	33.15	2.94	6.66	3.25	2.87	2.08	12.50	.41	1.09	1.34
1919	21.63	2.22	4.53	2.34	2.04	1.59	6.88	.28	0.74	1.01
1917	18.96	2.18	4.04	1.93	1.96	1.36	5.89	.25	0.66	0.69
1915	18.45	2.10	4.06	1.86	2.06	1.26	5.58	.24	0.68	0.61
1913	17.23	2.00	3.89	1.75	1.93	1.11	4.98	.22	0.63	0.71
1911	17.62	2.08	4.12	1.77	2.04	1.17	5.04	.23	0.65	0.53
1907	15.95	1.86	3.80	1.59	1.91	1.05	4.42	.21	0.51	0.59
1903	13.19	1.46	3.35	1.21	1.64	0.86	3.86	.10	0.35	0.27

[1] Payment for pensions are included in column "Miscellaneous" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with expenses of police fire and school departments.

[2] Payments for expenses of art galleries and museums are included in column "Recreation" for the years 1911 to 1928, inclusive; for the years 1903 to 1909, inclusive, they are included with the expenses of libraries; expenditures for libraries and schools are combined for the years 1931, 1932 and 1933.

IMPORTANCE OF DIFFERENT MUNICIPAL EXPENDITURES

There is a wide difference in the importance attached to the different functions performed by municipalities. Over a period of years there has been some change in the relative importance of some of the items, but it is interesting to note that expenditures for education have always been far larger than any other, and that the relative importance of this item has increased in the passing years. The attention devoted to health and sanitation has also been more marked in recent years, while protection and highways have commanded a smaller percentage of the expenditures than formerly. The following table shows the relative importance of the different services over a period of years:

PERCENTAGE OF EXPENDITURES FOR DIFFERENT FUNCTIONS

Year	General government	Protection to person and property	Health and Sanitation	Highways	Charities, hospitals, corrections	Education		Recreation	Miscellaneous
						Schools	Libraries*		
1933....	8.2	17.3	8.1	6.4	16.9	32.5	..	3.5	7.1
1932....	8.3	18.2	8.9	7.1	13.0	34.8	..	3.5	6.3
1931....	8.2	18.9	9.1	8.1	9.1	37.6	..	3.5	5.4
1930....	8.6	19.6	9.7	8.2	7.0	36.8	1.4	3.6	5.1
1929....	8.4	19.5	10.0	8.5	6.4	37.2	1.4	3.6	5.2
1928....	8.6	19.6	10.0	8.4	6.4	37.2	1.4	3.4	5.0
1927....	8.5	20.0	10.1	8.8	6.6	37.0	1.3	3.4	4.8
1924....	8.5	19.9	10.0	8.6	5.9	38.0	1.2	3.2	4.7
1922....	8.9	20.1	9.8	8.7	6.3	37.7	1.2	3.3	4.0
1919....	10.2	21.0	10.8	9.4	7.3	31.8	1.3	3.4	4.7
1917....	11.5	21.4	10.1	10.4	7.2	31.1	1.3	3.5	3.5
1915....	11.4	22.0	10.1	11.2	6.8	30.2	1.3	3.7	3.3
1913....	11.6	22.6	10.1	11.2	6.4	28.9	1.3	3.7	4.2
1911....	11.8	23.4	10.1	11.6	6.6	28.6	1.3	3.7	3.0
1907....	11.7	23.8	9.9	12.0	6.6	27.7	1.3	3.2	3.6
1903....	11.1	25.3	9.2	12.4	6.5	29.3	1.5	2.7	2.1

*Percentages for schools and libraries combined for the years 1931, 1932 and 1933.

OTHER EXPENDITURES

The expenditures described are designated as ''expenses'' by the Census Bureau. In addition, there are a number of other expenditures, the most important being for interest and outlays. Interest payments are for the funded and floating debt, special assessment loans, and other minor types of borrowing. In 1933 the total interest payment was $355,016,000. Expenditures for outlays comprise the amounts paid for the acquisition and construction of more or less permanent improvements, including payments for additions made to those previously acquired or constructed. Such payments in 1933 amounted only to $266,996,000 in comparison with $556,628,000 for the preceding year.

SOURCES OF REVENUE

Property Taxes.—The revenue of cities arises from varied sources. In most cities more than 90 per cent of the funds which go into the general revenue fund come from the general property tax levied against real and personal property. In addition, the Census Bureau designates certain taxes as special property taxes, including taxes upon the capital stock of corporations, upon savings banks and other financial institutions and upon insurance companies. Included in this, also would be taxes levied upon mortgages at time of recording, taxes upon incomes and estates, upon investments, and a wide range of specific taxes.

Poll and Business Taxes.—In many cities, also, some form of poll tax continues to be used, although such taxes are much less important than formerly. No generalization can be made as to method of levy since this varies greatly from city to city. In addition business and non-business license taxes make up a large group of levies upon different types of business activities, some of which, of course, are levied primarily for regulative purposes. The latter include such levies as those upon dogs, dance halls, etc. Receipts from special assessments constitute an important item, but such do not enter the general revenue fund. In some places at a particular time subventions and grants are an important source of income, while in some cities, also, the earnings from public enterprises are not unimportant. The relative importance of the major sources of revenue over a period of years is shown in the following table:

PERCENTAGE OF RECEIPTS FROM DIFFERENT SOURCES OF REVENUE

Year	The General Property Tax	Other taxes	Special Assessments	Subventions and grants, donations and pension assessments	Earnings of public service enterprises	Other Revenues
1933	64.3	4.3	2.4	12.3	9.5	7.2
1932	66.2	4.7	3.9	8.5	9.3	7.4
1931	66.2	4.7	3.9	8.5	9.3	7.4
1930	65.9	6.2	6.7	5.8	9.4	5.9
1929	64.7	6.4	7.2	5.8	9.8	6.1
1928	66.1	5.8	7.6	5.4	9.2	5.9
1927	66.1	5.7	7.7	4.9	9.6	6.2
1924	66.1	5.7	5.9	5.3	10.3	6.8
1922	66.9	5.2	4.8	5.9	9.0	8.2
1919	66.0	7.6	5.6	4.1	10.2	6.4
1917	64.3	7.4	7.8	4.0	9.9	6.6
1915	62.4	7.8	8.5	4.2	10.0	6.9
1913	62.4	8.5	8.2	4.5	9.9	6.6
1911	61.9	8.7	8.4	4.6	10.6	5.8
1907	59.4	10.6	8.2	4.8	11.2	5.8
1903	61.4	9.8	7.6	4.3	11.5	5.5

Per Capita Tax Burden.—That the tax burden imposed by cities has been increasing much more rapidly than population is readily seen when one notes the change in the per capita amounts collected from different sources over a period of years.

PER CAPITA RECEIPTS FROM DIFFERENT SOURCES

Year	Total	The general property tax	Other taxes	Special Assessments	Subventions and grants, donations, and pension assessments	Earnings of public service enterprises	Other Revenues
1933	$66.88	$43.02	$2.88	$1.59	$8.25	$6.36	$4.78
1932	68.82	45.57	3.24	2.70	5.84	6.42	5.03
1931	70.84	46.90	3.46	3.86	4.79	6.89	4.94
1930	73.32	48.34	4.57	4.91	4.25	6.92	4.33
1929	69.63	45.07	4.43	5.01	4.02	6.82	4.28
1928	72.11	47.67	4.18	5.52	3.87	6.65	4.23
1927	69.77	46.09	3.95	5.36	3.40	6.67	4.29
1924	58.41	38.59	3.33	3.43	3.12	6.00	3.96
1922	53.57	35.85	2.80	2.58	3.13	4.83	4.38
1919	35.26	23.29	2.68	1.98	1.43	3.61	2.27
1917	31.97	20.57	2.37	2.50	1.28	3.13	2.12
1915	30.00	18.73	2.36	2.54	1.26	3.03	2.08
1913	28.55	17.82	2.42	2.34	1.28	2.81	1.88
1911	28.07	17.37	2.44	2.35	1.30	2.98	1.63
1907	24.67	14.64	2.63	2.02	1.18	2.77	1.43
1903	21.14	12.98	2.06	1.60	0.91	2.42	1.16

MUNICIPAL INDEBTEDNESS

Receipts from sources of revenue may either just pay expenses, more than pay expenses, or fail to pay them. In many cases the administration of the finances have planned for a surplus but because of a shrinkage in revenues have had to resort to borrowing. In the calculations of the Census Bureau municipal indebtedness is divided into two distinct groups, funded debt and floating debt. The former includes all obligations represented by formal investments which have a number of years to run and for the redemption of which no assets other than a sinking fund have been specifically designated. The latter, on the other hand, includes such indebtedness as is evidenced by warrants and accounts payable, by short term bonds, etc. The gross indebtedness is, of course, the total amount, while to subtract from this the value of the assets in a sinking fund will indicate the net indebtedness. The following table shows the total indebtedness, the sinking fund assets, and the net indebtedness for certain years. The latest statistics that are available for 1931, 1932, and 1933 give only net indebtedness.

MUNICIPAL INDEBTEDNESS

(000 Omitted)

Year	Funded or fixed, and floating debt	Sinking Fund Assets		Net Debt	
		Amount	Per Capita	Amount	Per Capita
1933	$........*	$........*	$.....*	$6,360,586	$169.70
1932	........*	........*	.....*	6,289,078	166.66
1931	........*	........*	.....*	6,328,778	159.70
1930	7,808,379	1,840,816	47.20	5,967,563	153.02
1929	7,233,151	1,703,316	44.45	5,529,835	144.33
1928	6,860,660	1,607,178	42.72	5,253,482	139.27
1927	6,456,781	1,513,273	41.10	4,943,507	134.27
1924	5,057,023	1,215,043	34.82	3,481,980	110.09
1922	4,332,114	1,051,468	31.27	3,280,645	97.57
1919	3,352,688	811,516	25.93	2,541,172	81.18
1917	3,150,424	704,573	23.26	2,445,851	80.75
915	2,866,008	620,102	21.50	2,245,906	77.86
1913	2,490,461	540,454	19.20	1,950,006	69.28
1911	2,305,059	496,230	11.52	1,808,828	67.52
1907	1,657,320	362,441	15.68	1,294,878	56.04
1903	1,223,101	290,096	13.90	933,004	44.71

* Not available for 1931, 1932 and 1933.

MUNICIPAL BOND ISSUES

(000 Omitted)

Year	Total first ten months	Year	Total first ten months
1935	$ 968,737	1923	$850,952
1934	728,531	1922	990,188
1933	392,580	1921	868,392
1932	701,938	1920	570,109
1931	1,156,129	1919	581,871
1930	1,211,857	1918	245,789
1929	1,055,135	1917	402,828
1928	1,094,074	1916	402,548
1927	1,297,029	1915	434,829
1926	1,149,105	1914	423,171
1925	1,174,724	1913	327,902
1924	1,280,504	1912	345,871

Source: *Commercial and Financial Chronicle.*

CURRENT DEVELOPMENTS

Bond Market.—An improvement in the demand for municipal securities is indicated by the following table which shows the aggregate disposals of long-term obligations by states and municipalities for the first 10 months of each year for a series of years:

Tax Delinquency.—A rising trend of tax delinquency inevitably cripples municipal functions and weakens municipal credit. Dun and Bradstreet has made a study of the trend of tax delinquency in 145 cities of over 50,000 population for the five-year period from 1930 to 1934. These data throw no light on the situation in particular localities, but they are valuable because they indicate the general situation. Only fragmentary data are available showing the amount of tax delinquency in 1935, but the trend is unmistakingly downward.

MEDIAN TREND OF TAX DELINQUENCY 1930-34

One Hundred Forty-five Cities of Over 50,000 Population*

Fiscal Year Ending	1930 %	1931 %	1932 %	1933 %	1934 %
Twelve Cities over 50,000 Population:					
Median	11.9	17.5	25.4	26.8	24.10
Average of percentages	12.1	15.9	22.5	27.1	22.42
Nine Cities, 300,000-500,000 Population:					
Median	7.4	10.2	14.1	19.9	19.05
Average of percentages	10.1	11.4	17.5	20.5	22.20
Fifty-three Cities, 100,000-300,000 Population:					
Median	11.8	15.0	21.4	24.1	22.30
Average of percentages	13.7	16.3	22.9	26.1	23.46
Seventy-one Cities, 50,000-100,000 Population:					
Median	9.8	12.8	19.9	25.0	22.70
Average of percentages	12.9	16.1	22.4	27.4	23.30
One Hundred and Forty-five Cities:					
Median	10.8	13.3	20.1	25.2	22.70
Average of percentages	12.9	15.8	22.1	26.3	23.23

Source: Dun and Bradstreet, Inc., New York City.

* In this compilation only those cities have been used for which comparable figures for the five years were available.

Debt Defaults.—The rising trend in tax delinquency in recent years naturally resulted in a large number of defaults. The *Bond Buyer* estimated, with certain reservations, that there were 851 cities and towns in default on their bonds on Nov. 1, 1935. The following states, according to the *Bond Buyer*, had the largest number of defaults:

Florida	150	Texas	60
North Carolina	144	Tennessee	36
New Jersey	124	Oklahoma	23
Ohio	75	Oregon	18
Michigan	64	Colorado	14

The two states, Florida and North Carolina, which had the largest number of defaults, also had the largest increases in local indebtedness between 1912 and 1932, the percentages being 2,779.01 and 1300.8 respectively. The indebtedness of Maine during the same period increased only 73.2 per cent while that of Massachusetts increased 99.2 per cent. And Maine had only one default and Massachusetts had none.

With regard to the volume of debts in default, the *Bond Buyer* states: "The facts tend to show that from the volume of municipal indebtedness which might be considered to be in a state of default there has been a very substantial decline during the past year."

Debt Adjustment Legislation.—For the purpose of aiding municipalities which are in default on their obligations, various states have recently passed state receivership and debt adjustment acts. Boards or commissions have been established to supervise local indebtedness in general, to supervise the refunding of municipal bonds, and to act as receivers in event of failure to meet debt service. The Municipal Bankruptcy Act, a Federal measure, was enacted May 24, 1934. It is an emergency measure effective only until May 24, 1936. It enables any taxing district, with the consent of its creditors and the approval of a Federal District Court, to adjust its debt structure. It provides that any taxing district may file a petition with a Federal District Court stating that it is unable to meet the terms of its present debt contracts and proposing a plan for readjustment. Fifty-one per cent of the creditors in amount (or 30 per cent in case of drainage, irrigation, and levee districts) must accept the plan and consent of the filing of the petition. After notice and hearing, the plan of adjustment may be made binding on all creditors if it is approved by 75 per cent in amount, of those affected by it (or 66 2/3 per cent in case of drainage, irrigation, and levee districts). The plan must also be approved by two-thirds of the creditors in each class of debt affected by the plan. Section 80K specifically provides that nothing in the act shall limit the power of any state to control its political subdivisions. Thus if they feel that the use of the act may react unfavorably on their credit, state officials may prohibit the local units from using it. According to the *Bond Buyer* only 11 cities, three counties, 25 irrigation districts, and two road districts have filed petitions under this Act.

INCOME TAXES

BY MABEL NEWCOMER

PROFESSOR, VASSAR COLLEGE

FEDERAL INCOME TAX

Increase in Surtaxes.—The Revenue Act of 1935 made a number of changes in personal and corporation income tax provisions. In the case of the personal income tax the personal exemptions, normal rate of 4 per cent, and the surtaxes on taxable income up to $50,000 remain unchanged. Surtaxes on taxable income in excess of $50,000 have been increased, however, reaching a maximum of 75 per cent on income in excess of $5,000,000, instead of the former maximum of 59 per cent on income in excess of $1,000,000.

Corporation income tax rates have been completely revised. In place of the former rate of 13¾ per cent, a progressive scale has been introduced, starting at 12 per cent on the first $2,000 of taxable income and reaching a maximum of 15 per cent on taxable income in excess of $40,000. The rates of the special tax on the undistributed profits of holding companies have been increased to 50 per cent on income between $500,000 and $1,000,000, and 60 per cent on income in excess of $1,000,000.

The excess profits tax rates have been revised also. A rate of 6 per cent is imposed on profits in excess of 10 per cent but less than 15 per cent, and a rate of 12 per cent is imposed on profits in excess of 15 per cent.

RATES OF FEDERAL PERSONAL INCOME TAX ON INCOMES OF DIFFERENT AMOUNTS

Income (dollars)	Maximum rate (a)	Ratio of Total Tax to Net Income (b) (per cent)
3,000	4.0	.3
5,000	4.0	1.6
7,000	8.0	2.5
10,000	9.0	4.2
20,000	15.0	7.9
32,000	23.0	12.6
50,000	35.0	17.7
74,000	51.0	26.3
100,000	59.0	33.9
200,000	64.0	48.4
500,000	72.0	61.2
1,000,000	76.0	68.1
2,000,000	77.0	72.5
5,000,000	78.0	75.8
10,000,000	79.0	77.4

(a) Including normal tax.
(b) For married person with no dependents; exemption $2,500.

Revenue from Federal Tax.—The revenue from personal and corporation income taxes has increased materially, and there is a slight increase in the proportion of all taxes received from these sources.

REVENUE FROM FEDERAL INCOME TAX

(in thousands of dollars)

Fiscal year	Corporation Tax	Personal Tax	Total Tax	Per Cent of all Federal Taxes from Income Tax
1934/35	$572,118	$527,113	$1,099,231	30.2
1933/34	397,516	419,509	817,025	27.7

STATE INCOME TAXES

Changes.—A number of changes have been made in state income taxes during the year. New personal income taxes have been introduced in five states, and important amendments have been made in a number of the states which have had such taxes in force in earlier years. Most of the new taxes have highly progressive rates and the general tendency in the revision of former taxes is to increase the rates. Three states have introduced taxes on corporation income during the year. The two states permitting property tax offsets in 1934, New Mexico and Utah, abandoned them in 1935. The new Pennsylvania personal income tax law was declared unconstitutional by the State Supreme Court on Nov. 25, 1935.

The present status of state income taxes is as follows: twenty-seven states, excluding Pennsylvania, are taxing both personal and corporate income. Five more are taxing personal

DIGEST OF STATE PERSONAL INCOME TAX PROVISIONS

State	Year first effective	Personal exemption (dollars)			Rates of Tax (per cent)	Amount of taxable income in excess of which maximum rate applies (dollars)
		Single	Head of family	Dependents		
Alabama	1933	1,500	3,000	300	1½-5	5,000
Arizona	1933	10 (a)	20 (a)	4 (a)	1 - 4½	10,000
Arkansas	1929	1,500	2,500	400	1 - 5	25,000
California	1935	1,000	2,500	400	1 -15	250,000
Delaware	1917	1,000	2,000	200	1 - 3	10,000
Georgia	1929	1,500	3,500	400	1 - 5	20,000
Idaho	1931	700	1,500	200	1½-8	5,000
Iowa	1934	6 (a)	12 (a)	2 (a)	1 - 5	4,000
Kansas	1933	750	1,500	200	1 - 4	7,000
Louisiana	1934	1,000	2,500	400	2 - 6	50,000
Massachusetts	1916	2,000 (b)	2,500 (b)	250 (b)	1½-6 (c)	—
Minnesota	1933	1,200	2,000	250	1 - 5	10,000
Mississippi	1912	750	1,500	200	2½-6	15,000
Missouri	1917	1,000	2,000	200	1 - 4	9,000
Montana	1933	1,000	2,000	300	1 -29	100,000
New Hampshire	1923	200	200	—	(d)	—
New Mexico	1933	1,500	2,500	200	1 - 4	100,000
New York	1919	1,000	2,500	400	2 - 7 (e)	9,000
North Carolina	1921	1,000	2,000	200	3 - 6	6,000
North Dakota	1919	5 (a)	15 (a)	2 (a)	1 -15	15,000
Ohio	1931	—	—	—	5 (f)	—
Oklahoma	1908	850	1,700	300	1 - 9	8,000
Oregon	1930	800	1,500	300	2 - 7 (g)	5,000
Pennsylvania	1935 (h)	1,000	1,500	400	2 - 8	100,000
South Carolina	1922	1,000	1,800	200	2 - 5 (i)	6,000
South Dakota	1935	6 (a)	12 (a)	2 (a)	1 - 8	318,000
Tennessee	1929	—	—	—	5 (j)	—
Utah	1931	600	1,200	300	1 - 5	4,000
Vermont	1931	1,000	2,000	250	2 - 4 (k)	—
Virginia	1843	1,000	2,000	200	1½-3	5,000
Washington	1935	1,000	2,500	400	3 (l)	—
West Virginia	1935	600	1,300	200	1 - 3	6,000
Wisconsin	1911	16.25 (a)	37.50 (a)	—	1 - 7 (m)	12,000

(a) Deduction from tax. (b) Exemptions apply to earned income. There is a flat exemption of $300 for unearned income. (c) Earned income and annuities 1½%; capital gains, 3%; interest and dividends 6%. Temporary additional tax of 10% of regular tax, effective August 13, 1935. (d) Average rate on real estate; applies only to income from dividends and interest. (e) Plus 1% on gross income less personal exemptions. (f) Applies only to income from intangibles. (g) Exemptions and rates do not apply to income from intangibles; this is taxed at 8%, with exemptions of $500 for single persons and $800 for heads of families. (h) Declared unconstitutional by State Supreme Court, November 25, 1935. (i) For income from interest and dividends, 3 to 5% on all over $200. (j) On dividends and interest only. (k) 2% on earned income; 4% on interest and dividends. (l) Plus 4% surtax on income in excess of $4,000. 10% credit allowed for earned income. (m) This includes surtax for teachers' pensions. In addition to this a levy of 60% of the normal tax is made for 1935 and 1936, for emergency relief, and also a 2½% tax on dividends declared by corporations after September 26, 1935.

income alone, and two are taxing corporation income alone. In New Hampshire, Ohio and Tennessee the personal income tax applies only to income from intangibles. The same is true of the corporation income tax in Ohio.

Non-Resident Levies.—All of these states excepting Delaware, Iowa, Massachusetts, New Hampshire, Ohio, Tennessee, Utah and Vermont tax such income of non-residents as they can reach. California, Missouri, New Mexico, New York, North Carolina and South Carolina, however, credit non-residents with the amount of any income tax paid in the state of residence if such state allows similar credits. All of these states, except Wisconsin, tax residents on income derived from sources outside of the state, with only California, Georgia, Missouri, New Mexico, North Carolina and South Carolina allowing credits for income taxes paid in other states.

DIGEST OF STATE CORPORATION INCOME TAX PROVISIONS

State	Year when first effective	Kind of corporations exempt	Amount of income exempt (dollars)	Rate of tax (per cent)	Exemption of dividends of other corporations paying income tax to state	Exemption of interest from government
Alabama	1933	—	1,000	3	X	X
Arizona	1933	Insurance	—	1 - 5 (a)	X	X
Arkansas	1929	Foreign insurance	1,500	2	X	X
California	1929	Public utilities, insurance	—	4 (b)	X	—
Connecticut	1915	Public utilities, insurance	—	2	—	—
Georgia	1930	Insurance, banks	—	4	—	X
Idaho	1931	National banks	—	1½-8 (c)	X	X
Iowa	1934	Insurance, banks	—	2	X	X
Kansas	1933	—	—	2	X	—
Louisiana	1934	—	—	4	X	—
Massachusetts	1919	Public utilities, insurance	—	2½ (d)	X	—
Minnesota	1933	Banks, mines, insurance	1,000	1 - 5 (e)	X	X
Mississippi	1914	Banks	750	2½-6 (f)	X	X
Missouri	1917	Express, insurance, banks	—	2	—	X
Montana	1917	Express, national banks	—	2	—	—
New Mexico	1933	Express, insurance, banks	1,000	2	X	—
New York	1917	Public utilities, real estate, insurance	—	4½	—	—
North Carolina	1921	—	—	6	X	X
North Dakota	1919	Insurance, national banks	—	3	X	X
Ohio	1931	—	—	5 (g)	—	—
Oklahoma	1931	—	—	6	X	X
Oregon	1930	Insurance	—	8 (h)	—	—
Pennsylvania	1935	Insurance, banks	—	6	—	X
South Carolina	1922	—	—	4½	—	X
Tennessee	1931	—	—	3 (i)	X	X
Utah	1931	—	—	3 (j)	—	X
Vermont	1931	Public utilities, insurance, banks	—	2	X	X
Virginia	1927	Public utilities, insurance, banks	—	3	X	X
Wisconsin	1911	Railroad, car, insurance, savings banks	—	2 - 6 (k)	X	—

(a) Maximum rate applies to all income over $6,000. (b) Bank rate to be determined by average rate of income plus personal property taxes on business corporations; not to exceed 8%. (c) Maximum rate applies to all income over $5,000. (d) Bank rate to be determined by Commissioner; not to exceed highest rate applied to business corporations. (e) Maximum rate applies to all income over $10,000. (f) Maximum rate applies to all income over $15,000. (g) On income from intangibles. (h) Offset for personal property tax up to 90% of excise. (i) 5% on interest and dividends. (j) Or 1/20 of 1% of value of tangible property, whichever is greater, less property tax offset up to one-third of tax. (k) Maximum rate applies to all income in excess of $6,000.

Revenue from State Income Taxes.—Much of the revenue from state income taxes is earmarked for specific functions. School funds receive practically all of the proceeds in Delaware and Minnesota, and three-fourths in New Mexico, Oklahoma and Utah; 40 per cent of the personal income tax and one-fourth of the corporation income tax in Montana; $750,000 in Arkansas and $300,000 in Vermont, and unspecified sums in South Carolina and Washington. In Arkansas $500,000 is set aside for charities; in Vermont $150,000 for local roads. Unemployment relief was to have been the beneficiary of the Pennsylvania tax and receives 18 per cent of the Washington tax. The proceeds are dedicated to payment of debt and property tax reduction in Alabama. In Arizona, Arkansas, Georgia, Idaho, Louisiana, and Oregon, tax reduction is also noted as a purpose of the tax.

Part of the yield is distributed to local governments for general use. In Iowa part of the proceeds of the income and sales taxes are returned to local tax districts but the property tax must be reduced in proportion. In Massachusetts the state retains the temporary additional tax on personal income and enough of the regular tax to cover the cost of administration. The remainder is distributed to the local districts. The corporation tax is distributed, five-sixths to the cities and towns and one-sixth to the state. In New Hampshire the proceeds over the cost of administration are turned over to the cities and towns. In New York half of the regular personal income tax, one-third of the corporation income tax and all of the bank income tax are distributed to local districts. In Ohio all of the tax goes to local governments. In Tennessee 45 per cent of the corporation income tax on intangibles is distributed to local districts. In Wisconsin the surtax is used for special state expenditures as is also the temporary increase in the nor-

REVENUE FROM STATE INCOME TAXES

(in thousands of dollars)

State	Amount from personal income	Amount from corporation income	Amount for state purposes	Amount for local purposes	Fiscal year ending
Alabama	426	444	870	—	Sept. 30, 1935
Arizona	184	266	450	—	June 30, 1935
Arkansas	91	104	196	—	Dec. 31, 1935
California	—	2,555	2,555	—	June 30, 1934
Connecticut	—	754	754	—	June 30, 1935
Delaware	615	—	615	—	June 30, 1935
Georgia	(a)	(a)	1,766	—	Dec. 31, 1934
Idaho	115	200	315	—	June 30, 1934
Iowa	2,399	422	1,500	1,321 (b)	June 30, 1935
Kansas	878	471	1,349	—	June 30, 1934
Massachusetts	14,844	2,067	2,110	14,801	Nov. 30, 1934
Minnesota	991	815	812	994	June 30, 1934
Mississippi	(a)	(a)	385	—	Sept. 30, 1934
Missouri	2,144	1,429	3,573	—	Dec. 31, 1934
Montana	153	195	348	—	June 30, 1934
New Hampshire	404	—	8	396	Jan. 31, 1935
New Mexico	72	48	120	—	Dec. 31, 1934
New York	58,743	24,502	62,290	20,954	June 30, 1935
North Carolina	1,234	4,647	5,881	—	June 30, 1934
North Dakota	101	53	154	—	Dec. 31, 1934
Ohio	6,894	—	—	6,894	Dec. 31, 1933
Oklahoma	625	—	156	469	June 30, 1934
Oregon	1,598	788	2,386	—	Oct. 4, 1935
South Carolina	608	1,342	1,950	—	June 30, 1934
Tennessee	476	250	512	214	June 30, 1935
Utah	183	120	303	—	June 30, 1934
Vermont	472	75	547	—	June 30, 1934
Virginia	808	1,621	2,429	—	June 30, 1935
Wisconsin	(a)	(a)	6,228	3,818	June 30, 1935

(a) Not segregated.

(b) Income tax revenues pooled with sales tax and all but $1,500,000 distributed to local divisions. The allocation given here assumes that the entire state sum comes from the income tax yield.

mal rates. Sixty per cent of the regular normal tax is distributed to local divisions. The remainder of the proceeds in the different states is paid into the general state fund.

LAND, PROPERTY, CORPORATION AND BANK TAXES

By Jens P. Jensen

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ADMINISTRATION OF LAND AND PROPERTY TAXATION

Research Tax Commissions.—Temporary research commissions were authorized in Alabama, Delaware, Georgia, Indiana, Massachusetts, New York, North Dakota, and Utah.

Administrative Commissions.—Alabama adopted a tax commission of three appointive members. However, New Mexico substituted a commissioner of revenue for a three-member commission, and Rhode Island similarly substituted a director of taxation. The authority of the Louisiana tax commission was increased, this body now having authority to correct any and all assessments; and there is created a state bond and tax board, which, among other things, local taxing districts must petition for leave to levy certain taxes and incur debts. The California state board of equalization is also given additional authority. The powers of the Washington Commission were enlarged. The New Jersey board of tax appeal was upheld in its one-year limit for appeals.

Local Administration.—The local administrative changes were for the most part dictated by immediate needs. Florida, consequent upon the homestead exemption, created a county tax adjustment board, provided for municipal tax adjustment boards, and authorized county commissioners to adjust taxes in certain counties. The state also created a delinquent tax adjustment board in each county to adjust delinquent personal property taxes. Indiana created the office of deputy assessor for intangibles. In Illinois the powers and duties of the county boards were redefined. Pennsylvania provided for consolidation of the assessment in second class cities and the abolition of the department of assessors in such cities. The New York City charter was simplified as relating to the department of taxes and assessments. Three cases involving minor matters of administrative organization and functions compose the judicial output relating to the authority and responsibility of state tax commissions.

Assessment.—A considerable number of states turned to improvements in the assessment. The following modified their assessment rules in various details: Arkansas (S. B. 300, 302), California (Ch. 224, 259, 260, 343, 404, 599), Connecticut (S. B. 550), Illinois (H. B. 55), Indiana (H. B. 155), Kansas (H. B. 24), Maryland (Ch. 468), Montana (H. B. 105), Nebraska (H. B. 322), North Carolina (H. B. 451), Oregon (H. B. 227, 389, 390), Pennsylvania (Act 133), South Dakota (S. B. 161), Utah (S. B. 58), Vermont (H. B. 234), and Wisconsin (S. B. 3, A. B. 34,981). Indiana amended the provisions for reassessment, as did New Mexico and Ohio in certain cases; and Maine regulated the supplementary assessment. Nevada permitted the assessment of real estate improvements as personalty. New Mexico required the assessment of farm products in the hands of the original producer.

There was much litigation, most of which turned upon evidence adduced to show excessive assessment, a thing which does not yet mean the same in all the states. In three Iowa decisions it was enough to show that plaintiff's property had been assessed proportionately higher than other property in the district; while in Oklahoma assessment at more than fair cash value was necessary to secure relief. Other cases involved the evidence. But a large number turned upon technical points, such as failure to protest, property having been "omitted", using the proper basis or method, proper classification in listing, proper description, assessment to proper person, discriminatory within class to be treated uniformly, owner's misstatement, use of improper procedure, validity of reassessment, improper abatement, and assessment by an unconstitutional agency. The Federal courts passed on the validity of the assessment and upheld the assessment by the tax board of Texas of pipe line property. The constitutional rule of uniformity of assessment was violated in a Minnesota statute permitting delinquent taxes to be satisfied in full by partial payment. In Arizona a new levy to make up delinquencies does not discriminate unlawfully against those who pay promptly, and the same decision was given in Kansas, involving a county levy to make up state levy deficiencies, where the rate would vary among counties. Another Minnesota case involved non-uniformity arising from a city being situated in more than one county. A Texas decision condemned arbitrary classification. In Arizona the property tax on certain finance companies' shares does not violate the uniformity rule.

Situs.—Ships not having established a situs elsewhere were held taxable in the state of domicile of owner, a Nevada corporation. Other questions of situs were presented (178 A 32, 177 SE 535, 79 SW 2d 366, 46 P 2d 546).

PROPERTY TAX LIMITATIONS

The pressure for property tax limitation was still in evidence. However, in proportion to the bills offered, the number of adopted measures was small. About 25 overall limits were proposed in 17 different states and defeated. Most extreme was one of Ohio, which would have reduced the present overall limit from 10 mills to five mills. In 10 states, a new limit of 10 mills was proposed, and 15 mills in three states. Scattering proposed limits were at 20, 25, 30, and 37.5 mills, the latter two in Minnesota, on a classified and fractional valuation. In Illinois, two measures each proposed that the tax commission should determine the average necessary cost for local governments, above which levies were to be made illegal. Other proposals were in terms of previous levies or fractions thereof. In Georgia the electorate will have to vote in 1936 on a classification-limitation amendment submitted this year.

Tax limitation proposals to limit the rates permitted by one or more of the local taxing units were more numerous. Some 40 or 50 failed of adoption, but possibly half that number were approved. In Minnesota three measures were passed over the governor's veto, limiting the rate for school districts (S. B. 39), townships (S. B. 40), and villages (S. B. 41). In Delaware the aggregate county rate was limited, and the levy of taxes for road purposes by the counties discontinued (S. B. 175), which tends to the discontinuation of the county as a road district.

Two Illinois acts (S. B. 393, 394) similarly crowded Illinois townships out of the relief function. Local levy limits were adopted in Illinois, Kansas, Nebraska, and Utah. The Kansas limits were construed.

Not all the proposals offered and adopted tended toward limitation of the rate. In Utah one proposal would have removed the constitutional restriction upon taxes, and another would have removed the restriction on intangibles. Both failed. Proposals adopted in other states tended to soften the rigors of the overall limit. In Ohio, cities were permitted to levy, by majority vote, outside the 10-mills limit, and another act extended the same right to municipal universities. Other Ohio acts made similar extensions. Indiana amended the limit law. In Illinois four separate measures permitted new or adjusted levies in schools, villages, and cities for debts, emergencies, and current operation. Texas provided for levies for promotional funds. It is not always easy to see whether an adjusted limitation restricts or liberalizes the power to levy. There were also a number of acts validating levies already made, which were perhaps questionable under existing limits. The power to levy taxes was questioned. In contrast, a minimum mandatory levy in Washington was upheld.

CLASSIFICATION

Aside from the Georgia amendment combining tax limitation and classification, and the similar North Carolina resolution for an amendment, both to be voted on in 1936, little attention was devoted to classification and taxes on intangibles. Ohio repealed the property tax on grain in lieu of a per bushel handling tax. Michigan reduced taxes on commercial forest reserves from 10c to 3c per acre. Vermont exempted all intangible personal property from taxation. Pennsylvania provided for a new one-mill state tax on personal property and corporate loans. Arizona authorized refunds of the 1933 intangibles taxes held unconstitutional. Minor provisions relating to taxes on intangibles were also made in Indiana, Maryland, and South Dakota. The 1933 Indiana tax on intangibles was upheld as being an excise tax and, therefore, not required to be uniform. The Ohio tax on intangibles was upheld as to certain land trust certificates, but this was reversed by the Supreme Court. Taxation of intangibles was ruled on.

HOMESTEAD EXEMPTIONS

Remarkable in the history of tax exemption is the flood of bills proposing to exempt homesteads in full or in part. The California ''syncro-taxers'' vainly pushed a bill to abolish all property taxes except on unused property. They failed also in a constitutional amendment to prohibit all real estate property taxes. Well over 100 separate measures, in at least 34 states, were introduced during 1935 with the intent of freeing homesteads from the property tax. A smaller number of measures would have exempted personal property, also with the obvious intent to favor the homeowner. The proposed homestead exemptions ranged from $250 to $6,000. In most cases the exemption was apparently intended to be permanent, although a few proposals specified that it was to be temporary. Despite the fiscal distress of several states and their local divisions, there were at least 50 separate measures sought to increase existing exemptions, some of which were of the industrial-encouragement variety. Apparently less than 10 proposals were made to restrict existing exemptions.

Additional legislation was adopted in Florida and Louisiana to regulate the existing homestead exemption. Oklahoma, at a special election last fall rejected a legislative proposal to exempt homesteads but adopted an initiated measure authorizing the legislature to provide for the exemption of homesteads, with the restriction that if such legislation is adopted it cannot be repealed for 20 years. Two states, New Mexico and North Carolina, adopted resolutions authorizing statutory exemptions of homesteads (in the former not to exceed $2,500), which will have to be voted upon in 1936. No definite, final accession, therefore, occurred in 1935 to the states exempting homesteads. The states now allowing such exemption are: Florida ($5,000), Louisiana ($2,000 as possible maximum), Mississippi ($1,000), Texas ($3,000 from state tax only). Minnesota and West Virginia assess homesteads on a low differential percentage of value; and the former exempted household personal property and farm machinery. Michigan raised the household furniture exemption from $500 to $1,000. The Florida exemption does not affect the tax liability of homesteads for prior bonds. The Florida supreme court excluded alien residents from the $5,000 homestead exemption. In Texas the $3,000 homestead exemption was restricted to state taxes.

VETERANS EXEMPTIONS

Veterans received increased exemptions in Idaho (H. B. 122), Oregon (S. B. 380), Massachusetts (H. B. 2004), New York (Ch. 740) to a named veterans organization. Arizona limited (40 P 2d 90) the existing exemption to the soldiers share of undivided community property.

OTHER EXEMPTIONS

Industrial Encouragement. — Alabama authorized its tax commission to exempt from state property taxes manufactories of pulp and pulp products. South Dakota exempted certain trans-Missouri bridges for 10 years. Maryland and Massachusetts allowed exemption to certain coastwise vessels. Two local acts of Delaware exempted certain industrial sites and buildings. In Indiana more complete exemption was allowed to shares of building and loan associations. A minor exemption of display property at fairs was approved in California. Oregon amended a provision applicable to the taxation of ships and vessels. The justices of New Hampshire ruled prospectively that exemption of new buildings as a recovery measure would be constitutional. Other decisions interpreted approvingly existing industrial exemptions.

Charity.—New Hampshire exempted $1,000 to blind persons, provided the total property does not exceed $5,000. Arizona allowed exemption on the ground of charitable use to a B.P.O.E. lodge. Vermont provided for taxation of charitable institution in case of property used for profit. Mississippi approved exemption for a hospital. But the Texas court could not uphold remission of state property taxes to Hidalgo county by reason of a public calamity.

Religious Use.—There was no extension of exemption to property used for religious purposes. Existing exemption privileges were interpreted (176 A 779, 169 So 208, 42 P 2d 1093, 50 P 2d 547).

Public Property and Instrumentalities.—Vermont required the taxation of state-owned farm land; Tennessee of government-owned property used for non-governmental purposes; New Jersey, of state lands exceeding 10% of the entire area of the taxing district. As the property holdings of both Federal and state and local governmental units increase, and as they have increasingly to yoke tax title to delinquent lands, this matter increases in importance. The tax liability of public property was ruled upon.

Educational Uses.—Alabama exempted property of Alabama educational institutions the income of which is used for educational purposes. But a contrary intent was found in Washington; and in Oklahoma this privilege is limited to property within the state. In another case this privilege was upheld, while elsewhere it was denied.

LEGISLATIVE CONTROL OF LEVIES

The avalanche of laws issuing from the Illinois legislature demonstrates well a condition that is highly undesirable. Well over 50 separate laws were enacted solely to authorize particular local governments to borrow money and levy taxes for narrowly specified functions and funds, or to validate loans and levies already completed. The legislature cannot act intelligently on all of these bills, and it is detrimental to the local governmental units to have to submit to minute legislative control. Four acts (H. B. 252, 394, S. B. 549, 551) appear to be general in authorizing local governmental levies. Four others authorized either all or selected counties to levy property taxes to pay bonds, to support the blind, repairing and improving buildings, for dependent children.

Illinois cities, villages, and towns, either all or narrowly specified groups, were authorized to levy taxes for the debt service, to levy for fire departments, libraries, tuberculosis sanataria, and various pension and annuity funds. School districts were authorized to levy taxes for teachers' wages, for a cash working fund, buildings, and for teachers' pension funds. Forest preserve districts were authorized to levy for general purposes, and for employees' pension fund. Park boards were authorized to levy for general purposes. The Chicago Park Board, a consolidation of the numerous parks in the Chicago area, may levy for the debt service and for general purposes.

These services for which the legislature thus assumed responsibility, are far from all of the functions these various local governments perform. The impropriety of the erratic assumption of the budgeting of local governments is obvious. It is not surprising that these governmental units have thrown the responsibility on the legislature to the extent of making it necessary for that body to legalize or validate various appropriations, levies, and bond issues of questionable validity. In part these extra levies or adjustments in established levies were made necessary by tax limitations that have long been in effect in Illinois and have left their impress upon the fiscal system.

The same forces have produced the same phenomenon, though less conspicuously, in other states. Arizona raised the per capita school rate levy from $20 to $25. California levied to bonds issued, and required fire protection tax on personal as well as real property. Indiana authorized a levy to retire court house bonds, levies for third class cities, a county tax to aid universities, and levied a state tax for universities. Kansas authorized a levy for refunding emergency warrants, levy for public improvements, but repealed levy for certain community high schools. Montana assigned to the commissioners the fixing of tax levies. Nebraska permitted a levy for parks, for county relief, for patients in state hospitals, and for a school sinking fund. North Carolina regulated the levies and re-authorized levies for war memorials. Ohio consolidated fire and sanitary police pension funds. Tennessee permitted a county levy to repair damage in lieu of insuring fire and windstorm losses. Texas validated various school levies. Utah modified city levies. Vermont provided a minimum school tax program.

APPEAL AND CORRECTIONS

Illinois required payment of 75% of taxes involved before objections can be filed. This is refunded in case of illegally collected taxes. Pennsylvania authorized payment under protest of any sum to the Department of Revenue without prejudice to right of appeal. Provisions relating to appeal, correction of errors and proper procedure were adopted in California, Illinois, Massachusetts, New Jersey, Ohio, Pennsylvania, South Carolina, and West Virginia.

TAX COLLECTION

Measures of relatively permanent application for the collection procedure, more or less detailed in nature, were adopted in California, Colorado, Connecticut, Louisiana, Maryland, New Hampshire, and Texas. The strictness of the courts and the carelessness of the lienholders in the collection procedure produced, as usual, much litigation. So also failure to give proper notice, improper description, use of improper remedy, and procedure against persons not liable. Special measures were taken in a few states to safeguard the collection and the lien. In Illinois the Skarda act, under which the courts may appoint a receiver for delinquent property to collect taxes due from the earnings of the property, was extended to taxes and special assessments of the drainage districts. The supreme court defined the courts which may appoint such receivers. By another act real estate taxes may, after six months' delinquency, be collected from the rents or profits of the land. Two companion measures extended special provisions for the collection of Cook County taxes five years. Vermont provided that not more than 25% of the wages of municipal employees may be applied on taxes due the municipality. Oregon allows delinquent taxpayers to work out the amounts due. Idaho prohibits the removal of timber from non-tax-paid lands. Measures were also adopted in Nebraska, Missouri, and Vermont. A Federal court upheld (79 Fed. 2d 275) the constitutionality of tax sales of land by the Arkansas commissioner of state lands.

MORATORIA

Although the evidence is not satisfactory, it seems that the property tax delinquency has passed its peak. Yet a flood of emergency measures growing out of the delinquency cluttered the legislative dockets. There were apparently no wholesale moratoria on tax payments or land sales. Extensions related chiefly to taxes already delinquent, and were for short periods and with some concessions in interest and penalties. Such acts were passed in California, Iowa, Michigan, New Mexico, North Carolina, Pennsylvania, Tennessee, Utah, and Wisconsin. Only one case, in which the Florida moratorium was held to operate only prospectively, reached the state supreme courts.

CANCELLATION

Arizona and Idaho allowed county commissioners to cancel or adjust taxes, and Florida, personal taxes for 1933 and prior years. North Dakota cancelled taxes on homesteads prior to 1934; Oklahoma, unpaid back taxes for sinking funds where no deficit exists; Tennessee gave relief for delinquent taxes for 1920 to 1933. Texas barred collection of taxes due before 1919, and Utah allowed county commissioners to abate taxes up to $500. Cleaning-up measures of this sort may be expected in future years.

Much more frequent was the complete or partial cancellation of interest and penalties in taxes delinquent, such as were made in the following states: Connecticut, Idaho, Illinois, Maryland, Massachusetts, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, Pennsylvania, Texas, Utah, and Wisconsin. Another Texas law (H. B. 6), in addition to reducing the penalties on 1934 taxes, permitted a discount for prompt payment of future taxes. A New York law authorized local boards of tax arrears with power to cancel or compromise after hearing. Pennsylvania abolished imprisonment for failure to pay local taxes. Illinois sought to stimulate payment by requiring the collector to accept tender of payment of taxes due for all years, with 50% of accrued interest and forfeiture fees. Florida made the settlement of delinquent taxes of 1931 and prior years, provided in the 1933 law, applicable to 1933 taxes unpaid, and provided for the settlement of taxes in certain counties.

Provision for payment of installments was made in California, Connecticut, Delaware, Illinois, Kansas, Montana, New York, Pennsylvania, South Dakota, and Wisconsin. Washington permitted temporary discount, while Utah eliminated this privilege. Arizona extended permanently the semiannual payment. Ohio permitted payment of current taxes in ten installments, while Oregon permitted both installments and discount for prepayment. Texas amended the law relative to state purchase of lands in satisfaction of tax lien. South Dakota permitted municipalities to accept deeds to real estate for the purpose of discharging tax and special assessment liens. Nebraska provided for tax foreclosure procedure by counties. And six separate measures endeavored to facilitate tax foreclosure by the counties.

The following states attempted to clarify the enforcement and foreclosing of liens for unpaid taxes: Connecticut, Maine, Massachusetts, Montana, Texas, Wyoming. A number of states similarly sought to define the conditions under which property or tax certificates may be sold for delinquent taxes: Arkansas, California, Florida, Illinois, Nebraska, New York, North Carolina, Pennsylvania, and Wisconsin.

PUBLICITY AND REDEMPTION

The following laws require advertising or other form of publicity of delinquent taxes and taxpayers: Arkansas, California, Connecticut, Illinois, and Indiana. Illinois repealed the requirement that certified copies of the sale lists be sent to the state auditor. Michigan sought to provide data by which the extent of delinquency may be currently known, by requiring county treasurers to make monthly returns of delinquent taxes to the state auditor.

The same purpose, to stimulate tax payment, is evident in measures adopted in the following states granting some concession in the terms upon which lands sold for taxes may be redeemed: Arkansas, California, Florida, Georgia, Idaho, Illinois, Louisiana, Kansas, Massachusetts, Minnesota, Montana, North Dakota, West Virginia, Wisconsin, and Wyoming. The privilege of redemption was interpreted.

PAYMENT AND TAX DEEDS

Motivation of prompt payment of delinquent taxes was intended in the following measures which permit some concession in the medium of payment. Arkansas permits the payment of improvement district taxes with past due bonds and interest of such districts.

Payment with county bonds was likewise permitted in California and Florida. North Dakota and Ohio permitted payment in liquidated claims against the respective taxing divisions. Michigan would temporarily accept in payment municipal and HOLC (Home Owners Loan Corporation) bonds. The Arizona 1933 statute permitting payment in state warrants was held violative of the constitutional requirement for payment in ''money''. Other questions of payment were passed on.

Florida, South Dakota, and Wisconsin (Ch. 64) sought to improve the methods of obtaining tax deeds. Illinois provided for the registration of titles to land sold for taxes unpaid. As a measure to facilitate collection it would be desirable to remove the uncertainty which attaches to tax deeds.

FEDERAL CORPORATION AND BANK TAXATION

A number of new features were introduced into the Revenue Act of 1935. One of them was the progressive rate structure on the tax on corporate incomes. The flat 1934 rate of 13¾% became 12½% on net income not in excess of $2,000, 13% on incomes over $2,000 but not in excess of $15,000, 14% on income over $15,000 but not over $40,000, and 15% on income in excess of $40,000. An exemption for contributions to charitable purposes up to 5% of the annual income was allowed. The spread between the minimum 12½% and the 15% maximum rates is not very wide. The principle, however, of graduation on the absolute amount of the income rather than on the rate of earnings on invested capital was new in Federal taxation, although it is found in the statutes of several states. It was supported by the Administration chiefly on the ground that ability to pay increased with the size of corporation. As a means of preventing evasion of the graduated tax on incomes, a tax on 10% of intercorporate dividends was imposed.

The 1934 excess profits tax of 5% on income in excess of 12½% was somewhat elaborated. The rate became 6% on income in excess of 10% of the declared value of the capital stock but not in excess of 15% thereof, and 12% on the income in excess of 15% of the declared value of the capital stock. The rate of the capital stock tax was increased from $1 per $1,000 of declared value of capital stock to $1.40 per $1,000. The corporations were for the third time allowed to ''adjust'' the value of their capital stock to any figure they desired, although the two previous acts, as does the present law, provided that this declaration ''cannot be amended,'' except for corresponding changes made in actual capital. In order to safeguard the revenue from the income tax on personal holding companies, the penalty tax on them was increased to begin at 20% on incomes not exceeding $2,000, the rate rising to 60% on incomes in excess of $1,000,000. The privilege of filing consolidated returns remains withdrawn.

STATE CORPORATE INCOME TAXES

A number of states enacted new or amended old corporate income taxes. The rate of the California corporate franchise tax was increased from 2% to 4%, the maximum rate on banks being increased to 8% (Ch. 353). The tax was extended to apply to Massachusetts or business trusts (Ch. 323), and to corporations in general, including utility corporations (Ch. 275), and was further amended (Ch. 281). The rates of the Idaho tax were increased (Ex Ch. 30) to from 1½% to 8% instead of from 1% to 6%. So also that of Georgia (H. B. 724) by prescribing a minimum of 2% on a specified formula. In New York an emergency tax was imposed upon 1936 corporate incomes measured by 1½% of 1935 incomes (A. B. 815, 1939), and a tax was imposed upon unincorporated business incomes (S. B. 1873). Massachusetts (Ch. 480) also provided for a temporary additional tax on corporate as well as other incomes, amounting to 10% of tax as computed. Utah increased the corporation income tax from 3% to 4%, and first abolished the property tax offset, then restored it to the extent of 20% (S. B. 1). Pennsylvania (Act 91) imposed for two years an excise tax of 6% of net income as reported for the Federal tax on all corporations except financial institutions. South Dakota adopted (S. B. 36) a new income tax on persons and corporations graduated from 1% to 8%. Idaho imposed a tax of 3% on the net income of mines (H. B. 22). In Connecticut (S. B. 221) a net income tax was imposed of 2% of net income from sources within the state, minimum $10. Washington, venturing again upon the corporate income basis, after the adverse decision on the 1932 law, imposed a 4% tax on corporate income (Ch. 180). Alabama repealed the $1,000 exemption to all corporations (H. B. 324). Certain changes in definition of taxable income were made in Georgia (H. B. 724), California (Ch. 281), New York (Ch. 745), and North Carolina (H. B. 32).

The Arkansas 2% tax was upheld (85 SW 2d 700) as to income from stocks of outside corporations received by domestic corporation. A similar issue was involved in North Carolina (181 SE 248). The California tax was upheld (39 P 2d 796) against alleged improper classification; alleged discontinuance of business (46 P 2d 294); and against a navigation company, involving the tax liability of income from interstate commerce (43 P 2d 805). The Georgia tax was challenged in two cases involving the taxation of the entire income of a domestic corporation engaged in purchasing tax liens in several states (179 SE 559), and the liability of income earned outside of state (180 A 589, 179 SE 563). A Massachusetts decision interpreted the state's tax on dividends (193 NE 733), and one upheld the state excise tax (197 NE 525). So also the South Carolina tax (182 SE 96). The Mississippi supreme court held adversely to the tax commission on an issue of deduction of losses (160 So 907). In North Carolina railway mail pay was held not exempt as being instrumentality of government (178 SE 592). North Dakota interpreted alleged involuntary payment (258 NW 596). The Tennessee tax was interpreted (79 SW 2d 564). Three Wisconsin cases involved various points in the Wisconsin income tax. The Oregon property tax offset is limited to taxes ''paid'' (49 P 2d 359). Federal courts ruled on the definition of state corporate income taxes (75 Fed 2d 779, 78 Fed 2d 460) and held the 1933 12% tax on the income of power companies violative of both the state and Federal constitutions (8 Fed. Supp 935).

OTHER FRANCHISE TAXES

In North Carolina the rate of the franchise tax on domestic and foreign corporations was increased (H. B. 32) from $1.50 to $1.75 per $1,000 of capital stock, the rate on foreign corporations being likewise raised but applying only to capital stock allocated to the state. Tennessee levied a tax of $1.50 on each $1,000 of invested capital of all entities (Ch. 5). New Mexico (S. B. 47, 181) made the rate $1 per $1,000 of issued capital stock. The South Carolina (Ch. 104) tax is not applicable to that part of the capital stock represented by property outside of the state. Idaho (Ex Ch. 62) fixed the value of no-par stock at $100. Alabama also (H. B. 324) fixed the value of no-par stock, but on the basis of property represented. Michigan (Ch. 102), California (Ch. 289), and New York (Ch. 305) exempt certain companies whose stock is owned by an agency of the United States. North Carolina repealed the corporate excess tax (Ch. 417), and Rhode Island (Ch. 2189) changed the basis for this tax. Pennsylvania changed the capital stock tax on certain foreign corporations into a franchise tax of five mills on the portion of capital allocated to the state (Ch. 86). A Nebraska occupation tax (H. B. 235) on foreign corporations is to be measured by all property and credits employed in the state. Interpretation of the franchise taxes measured by the value of corporate stock was made. A Federal Supreme Court decision reversed (255 NW 368) holding the corporation owning the Detroit International Bridge liable to pay the Michigan franchise tax. Federal courts construed state franchise taxes (79 Fed 2d 203, 10 Fed Supp 748).

ADMINISTRATION

Pennsylvania (Ch. 347, 348) allowed a 4% discount for payment in advance of certain corporate taxes, and provided for the release of a portion of the real estate from tax liens upon payment of a proportionate part of the taxes (Ch. 138). Laws relating to the administration of corporation taxes were adopted in Delaware, Florida, Louisiana, Massachusetts, New York, Utah, Washington, and West Virginia, and interpreted in South Carolina, and Arkansas.

SPECIAL CORPORATIONS

Kansas provided for assessing gross income of utilities for fees for hearings by public service corporations. Louisiana increased these fees; as did North Carolina, Oregon, Utah, Wisconsin, Louisiana, Ohio, South Carolina, and Utah. Pennsylvania increased the rate on utilities from eight mills to 14 mills on gross receipts. Montana doubled the telegraph license tax and enacted a new method of taxing freight line companies by valuation of property. New Jersey taxed companies producing and selling hydroelectric power. A Federal court upheld (10 Fed Supp 669) the South Carolina tax of this description. Connecticut, Nebraska, New York, and South Dakota changed the taxes on certain insurance companies.

BANK TAXATION

There was little new in taxation relating to banks. Minnesota (Ch. 131) continued its practice since 1924 of agreements with the national banks to pay 75% of their assessments under the law, and also the practice of memorializing Congress to authorize taxation of national bank stock without limitation except that the rate must not exceed that applied to state banks (Res. 16). The litigation also was of little importance. Alabama decided matters of assessment of stock (161 So 793, 162 So 270). In Idaho the court held that the legislature intended the income basis instead of the share basis (37 P 2d 1101). Two Iowa cases involved the assessment procedure, as did also a New Jersey case. A Federal district court found the Iowa tax on bank shares violative of Section 5219 (8 Fed Supp 638). A Federal Supreme Court decision reversed 173 A 309 for including U. S. securities in measure of tax on shares. In an advisory opinion the Maine Supreme court ruled preferred shares taxable when held by no-exempt holder. But Maryland would tax such shares when held by the RFC. A Federal district court held RFC shares tax exempt (10 Fed Supp 471).

Income as the basis for the taxation of banks was accepted in Connecticut (Ch. 221) at the rate of 2%, in lieu of the old share tax and the tax on savings deposits. The corporate income tax of South Dakota probably also applies to banks (Ch. 205). In Washington (Ch. 180) a 4% tax on the income of corporations applies to banks. So does the 1935 Oklahoma corporate income tax of 6%, which remedies the joker found in the 1933 act. The California act, as stated above, ranged the rates on banks from 4% to 8% instead of from 2% to 6%. Georgia, however, declared this method inapplicable to banks (H. B. 561), as did Louisiana (1st Ex Ch. 21).

Maine (Ch. 50) amended the 5-mill tax on bank deposits to apply to deposits drawing 2% interest or more, instead of 3%. Vermont (H. B. 320) made deposits within as well as without the state taxable. In Indiana (Ch. 298) banks and trust companies may exclude charitable deposits from taxable deposits, but they may deduct only the assessed value rather than the book value of real estate from the value of the shares on which the share tax is based. Also the state (Ch. 263) makes this law applicable to building and loan associations. In New Jersey (Ch. 210) banks may deduct the stock of corporations which is owned wholly by the bank, in arriving at the taxable residual value of the bank's shares. Under law of Maine (Ch. 96), Michigan (Ch. 102), New York (Ch. 120), and South Carolina (H. B. 1026), banks may deduct the value of stock owned by the United States in arriving at the taxable value of the shares.

ESTATE AND INHERITANCE TAXES

By Harold R. Enslow

Department of Taxation and Finance of the State of New York

FEDERAL LEGISLATION

"Soak-the-Rich" Enactment.—The most striking development of 1935 in the field of estate and inheritance taxation was the so-called "soak-the-rich" legislation adopted by Congress late in the summer and signed by President Roosevelt on Aug. 30.

President's Statement of Policy.—In his unexpected tax message on June 18, the President made "a number of suggestions of important changes in our policy of taxation. These are based on the broad principle that if a government is to be prudent its taxes must produce ample revenues without discouraging enterprises; and if it is to be just it must distribute the burden of taxes equitably. . . . Taxes should be levied in proportion to ability to pay and in proportion to the benefits received. . . . This was and still is a wholesome guide for national policy. It should be retained as the governing principle of Federal taxation. . . . Wealth in the modern world does not come merely from individual effort, it results from a combination of individual effort and of the manifold uses to which the community puts that effort. . . . The people in the mass have inevitably helped to make large fortunes possible. . . . As Andrew Carnegie put it, 'Where wealth accrues honestly, the people are always silent partners'. . . . The ownership of such wealth or riches represents a great public interest and a great ability to pay."

Presidential Proposals.—He then proposed that "in addition to the present estate tax, there should be levied an inheritance, succession and legacy tax in respect to all very large amounts received by any one legatee or beneficiary; and to prevent, so far as possible, evasions of this tax, I recommend further the imposition of a gift tax suited to this end. Because of the basis on which this proposed tax is to be levied and also because of the very sound public policy of encouraging a wider distribution of wealth, I strongly urge that the proceeds of this tax should be specifically . . . applied . . . to the reduction of the national debt."

In making this recommendation the President said: "The transmission from generation to generation of vast fortunes by will, inheritance or gift is not consistent with the ideals and sentiments of the American people. . . . Great accumulations of wealth cannot be justified on the basis of personal and family security. . . . Such accumulations amount to the perpetuation of great and undesirable concentration of control in a relatively few individuals over the employment and welfare of many many others." *

Criticism of the President's Stand.—The President's message met with a furor of opposition. Opinion was divided as to the sincerity of his pronouncement. Since the recommendations he made were not sufficient to balance the budget, his statement was attacked as a political gesture and deplored as serving to create still greater confusion of unsettled business conditions. On the other hand, the recommendation could not be deemed such a ''soak-the-rich'' program as was being advocated by the since-deceased Huey Long with the proclaimed design of making a thorough distribution of accumulation of wealth. It may be that the President was motivated by what seemed to be political expediency or it may be that he was seeking to establish more firmly the principle of taxation according to ability, with the expectation of carrying the principle further in the future.

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* In this connection it will be interesting to notice the conclusions reached by Professor Henry F. Walradt of Ohio State University who recently analyzed the contention that death taxes "destroy" estates. "An estate of $20,000,000 is assumed to be transferred at death once every thirty years and to be subject to the full rates of the 1934 federal tax with a specific exemption of $50,000. Assuming that the heirs make no additions to capital but do not deplete it except to pay death taxes, the estate would amount to $1,145,087 after 180 years. Any tax which permits an unproductive estate of $20,000,000 to support in idleness six generations of lineal descendants and to give the last owner the income from over a million dollars of property cannot be thought of as destructive to estates." Quoted from Interstate Commission on Conflicting Taxation, *Conflicting Taxation*, 1935, p. 111.

Terms of the New Taxation.—At any rate, after two months of vigorous debate a new tax law was adopted which, so far as death taxes were concerned, did not impose an inheritance tax in addition to the existing estate tax as recommended by the President, but merely made certain adjustments in the estate tax structure, namely, the reduction of exemption from $50,000 to $40,000 and an increased schedule of rates beginning at 2% on a net estate of not more than $10,000 and ranging upward to a maximum of 70 per cent on that part of the estate above $50,000,000. The Federal gift tax rates were also revised so as to approximate three-fourths of the new estate tax schedule. The new estate tax rates became effective with the enactment of the tax on Aug. 30. The new gift tax rates, however, became effective on Jan. 1, 1936. This fact occasioned the transfer of considerable amounts of property by wealthy persons. Many were quick to take advantage of the period of four months during which gifts might be made subject to the old gift tax rates.

Another feature of the new law will permit executors under certain conditions to value the properties of the estate for tax purposes as of one year after decedent's death, rather than at the time of death as was formerly necessary. On the other hand, if desired, the estate may be valued for tax purposes as of the time of death. Valuation of the estate as of one year after death may give some relief to estates caught by a declining market. In 1932 and 1933, considerable attention was given to the problem of giving relief to estates in such situations. A decline in values occurring after decedent's death in many cases worked hardships. By the 1935 legislation an additional three months was allowed for payment of the tax, that is, the tax may now be paid 15 months after decedent's death, rather than 12 months after death as was formerly the case. Under the 1934 law, interest at 6 per cent began to run six months after the due date of the tax. The 1935 act shortened this period to three months after the due date of the tax.

STATE LEGISLATION

States Having Estate and Inheritance Taxes.—As of Oct. 1, 1935, according to *Tax Systems of the World,* the following states had estate taxes: Alabama, Colorado, Florida, Georgia, Mississippi, New York, North Dakota, Oklahoma, Oregon, Rhode Island and Utah. The following had inheritance taxes: Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

Tax Revisions.—Temporary additional taxes were imposed or continued in Massachusetts, New Hampshire, New York and Wisconsin. Death tax laws were rewritten in Alabama, California, North Carolina, Oklahoma and Washington. Oklahoma adopted an estate tax in place of her former inheritance tax. Increases in rates were made in 12 states among which are the following: California, Idaho, Maryland, Michigan, Oklahoma, Tennessee, Utah and Washington. In Utah an old-age pension fund is to be created with certain of the revenue derived from the increased estate tax.

Exemptions were reduced in California, Idaho and Washington. An interesting provision in New York qualified deduction of bequests to religious, scientific, etc. corporations by providing that the deductions should be allowed only if "no substantial part of the activities" of the corporation "is carrying on propaganda, or otherwise attempting, to influence legislation". In Minnesota a deduction for maintenance of decedent's family for one year is to be determined by the probate court but may not exceed $5,000.

Miscellaneous.—In Idaho and Illinois attempts to take up the full credit allowable against the Federal tax were vetoed. Provision for reciprocal enforcement of domiciliary death taxes in non-resident estates was made in North Carolina, Oregon and Washington but was omitted from the Alabama act. Other acts in various states made more or less minor changes in administration or in other features of their death taxes. Space does not allow a complete recital. The usual number of administrative rulings and court decisions were made with reference to both state and Federal laws.

REPEAL OF NEW YORK CITY TAX

Late in 1934, New York City under authorization of the legislature adopted an estate tax equal to 40 per cent of the amount payable under the state's tax. This was one of several measures designed to raise relief funds. In April, 1935, the authorizing statute was amended by the legislators so as to eliminate estate taxes from the list of levies which might be made by the city. This action was prompted by doubts of constitutionality and probably also because of fear of interference with state revenues. Accordingly, in December, 1935, New York City repealed its estate tax law as of the date of enactment and made provision for refund of any amounts collected thereunder. When the tax was imposed by the city in 1934 it occasioned some exodus of wealthy persons from the city.

RECEIPTS FROM DEATH AND GIFT TAXES

In the fiscal year ended in 1917, the Federal Government received slightly more than $6,000,000 from death and gift taxes. The states in that year received slightly more than $40,000,000, making a total from these sources of slightly more than $46,000,000. In 1934, the Federal Government received from these sources slightly more than $113,000,000, the states almost $93,000,000, making a total of almost $205,000,000 from these sources. In 1935 the Federal Government received slightly more than $212,000,000. At the time this is written, data are not yet available to show what the states received from these sources in 1935.

AUTOMOBILE TAXES

By Beulah Bailey

New York State Department of Taxation and Finance

TAX YIELD

The taxes from automobiles and gasoline reached in 1934 the sum of $1,048,065,269.* Of this amount $565,000,000 was from the various state gasoline taxes, $170,000,000 from the Federal gasoline tax and $313,000,000 from state motor vehicle registration fees. These figures exclude the personal property tax in 32 states, the sales tax in 17 states (during 1935, sales taxes have been levied in six additional states), special city and county taxes on motor-vehicle users in 25 states and the Federal excise taxes on wholesale values.

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* Later figures for full year not available.

INCREASE IN GASOLINE RATES

Four states, Connecticut, Nebraska, New York and Pennsylvania increased the gasoline tax rate in 1935. In Connecticut the rate is now permanently 3c. In New York and Pennsylvania it has been temporarily increased to 4c, and in Nebraska to 5c. In New York the increase is from April 1, 1935 to June 30, 1936; in Pennsylvania it is from July 1, 1935 to May 31, 1937; and in Nebraska from Nov. 26, 1935 to Feb. 28, 1937. No states decreased the tax rate on gasoline. Gasoline consumption continues to gain. Sales of gasoline in New York State for the first three-quarters in 1935 showed a gain of 22,793,045 gallons over the sales for the same period in 1934. Taxable sales totaling 1,114,655,810 gallons in 1934 have increased to 1,132,741,018 in 1935.

REGISTRATION FEES

Flat Rates.—There is a decided movement afoot to reduce the registration fees on passenger cars and in some states commercial cars, while on the other hand higher registration fees and more stringent regulations are in some states being placed upon motor carriers. The most outstanding reduction was in Georgia where there is now a flat rate fee of $3 per annum on all motor vehicles registered. Registration is not required for tractors used for agricultural purposes and motorcycle side cars. There is for passenger and freight common carriers either an additional flat rate fee based on weight, capacity and miles or an alternative excise tax of so much per mile based on weight and mileage. At present three other states have a flat fee for passenger cars, California and Washington, $3 and Oregon, $5. If the present gasoline tax in California should be held unconstitutional then automatically the flat rate registration fee would terminate and there would be a fee based on horse power at a rate of 40c per horse power.

Connecticut.—The registration fees of passenger cars were formerly based on piston displacement. A 1935 law levied a flat rate fee ranging from $7 on motor vehicles weighing 3,500 lbs. or more to $11 on all over 4,500 lbs. The passenger carriers' rates were formerly the same as pleasure cars plus a flat rate per seat for number of seats over an arbitrary number. This is still true of the small passenger carriers for hire but the fee for buses is 50c per hundred gross weight. Gross weight includes light weight plus 150 lbs. per passenger capacity. The fee for school buses is 30c per hundred gross weight, gross weight including light weight plus 100 lbs. per passenger capacity.

Delaware is another state which for the first time is differentiating between the passenger car and the passenger carriers for hire. The new fee on public contract carriers is measured by ton mile, the rate ranging from ½ mill to three mills depending on the weight of the vehicle.

Illinois has decreased the rates on passenger vehicles and gives the commercial vehicles a flat rate of $5 plus either a flat rate based on weight ranging from $5 to $245 or a mileage weight tax ranging from one mill per mile for trucks weighing 3,000 lbs. or less to 20 mills per mile for trucks weighing over 24,000 lbs.

Indiana reduced the rate on common carriers from $1 to 60c per 100 lbs., and Colorado reduced it from five mills to three mills per ton mile. Maine increased the fees on trucks weighing over four tons. North Carolina reduced the rates on private passenger cars from 55c to 40c per 100 lbs. The Vermont fee on passenger cars ranged from $14 to $39; a 1935 law reduced the fee to a range of $12 to $33. Ohio made $16 the maximum for all cars having more than 31 horse power. The maximum formerly was $25 for cars in excess of 36 horse power.

South Dakota has rather drastic laws for motor carriers. The use of the highway by motor carriers is termed by the law ''the unusual use of the highway'' and the fee is in accordance. Motor carriers are divided into eight classes, the fee ranging from $40 per year for vehicles of four tons or less to $250 a year for those of 12 tons. Buses constitute class seven and the fee is $1 per month per seat. Class eight is vehicles used for transporting farm produce and the fee ranges from $20 per year to $125. Vehicles operated exclusively in interstate commerce may pay upon a mileage basis of two mills per ton for each mile of operation instead of the flat rate.

Tennessee changed from so much per horse power to a flat rate for all motor vehicles ranging from $3 for motorcycles to $125 for freight motors with gross weight of over 24,000 lbs. Passenger motor vehicles for hire pay in addition a flat rate of $4 for one with two-passenger seats; $10, two to five seats; $14, five to seven seats, and $2 per seat for each seat over seven.

West Virginia increased by 25% and more the registration fees for trailers. These fees formerly ranged from $9 to $585, the present range is from $9 to $810 with an additional fee of $100 for pneumatic tires and $150 for solid tires for each ton over 10. The fees for trailers for hire formerly ranged from $24 to $1170, the present range is from $30 to $1620 with an additional fee of $200 for pneumatic tires and $300 for solid tires for each ton over 10. These additional amounts were formerly $100 and $175.

Wisconsin.—The Motor Carriers' tax is a flat fee payable quarterly on each motor carrier at the annual rates ranging from $30 to $540 plus $30 for each additional ton or fraction over 36,000 lbs. The fee for truck tractors is $22.50 up to 4,500 lbs. and $30 from 4,501 to 6,000 lbs. Formerly motor carriers had a choice between a flat tax or a mileage tax, but the 1935 law deletes the mileage tax privilege. The Motor Carriers' tax applies only to carriers weighing 6,000 lbs. or more. The 1935 law reduced the flat tax rate in the first class, 6,000 to 8,000 lbs., from $48 to $30, and in the classification from 8,000 to 10,000 lbs. from $60 to $38. The remainder of the schedule of rates is the same as formerly.

LICENSE REQUIREMENTS TO REDUCE ACCIDENTS

An active campaign is being carried on in all states to reduce the number of motor vehicle accidents. More stringent regulations would be an important factor in this campaign. Until Jan. 1, 1935 there were 17 states that had no license requirements for either chauffeurs or operators, and 11 states that required chauffeurs only to be licensed. During 1935 Alabama, Arkansas, and Montana required operators to be licensed, these states already licensed chauffeurs, and Idaho, North Carolina and North Dakota for the first time required operators and chauffeurs to be licensed. In Arkansas the revenue from the drivers' license fees is to be used to administer the law curtailing bootlegging of liquor. There are six states that have no minimum driving age.

Two states made changes in the administration of the motor vehicle law. In Delaware it is to be administered by the Vehicle Commissioner instead of the Secretary of State, and a new Bureau of Revenue was created in New Mexico which will administer the motor fuel tax as well as the registration of motor vehicles. Connecticut, Indiana, Maine and Maryland require that all personal property taxes and fees be paid before the car license is issued.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

NATIONAL HIGHWAY USERS CONFERENCE, National Press Building, Washington, D. C.

NEW ENGLAND STATE TAX OFFICIALS ASSOCIATION, Room 237, State House, Boston, Mass.

NORTH AMERICAN GASOLINE TAX CONFERENCE, 844-46 Consolidated Bldg., Indianapolis, Ind.

WESTERN STATES TAXPAYERS ASSN., Denver, Col.

DIVISION VIII

PUBLIC RESOURCES AND UTILITIES

FEDERAL SURVEYS AND MAPS

By W. L. G. Joerg

Research Editor, American Geographical Society

NATIONAL TOPOGRAPHIC MAPPING

The stock-taking of national resources and skills that has been undertaken in the last few years as a necessary prelude to the formulation of any plans for national recovery has, in the field of cartography, encompassed the standard topographic map of the United States. The topographic map of a country may itself be conceived as a graphic inventory of that country's natural and cultural landscape—the mountains and valleys, the plains and plateaus, the forests and rivers and swamps that provide the foundation on which the fretted pattern of man's activities has been and is being worked out in the form of towns and valleys, roads and waterways, fields and mines. In the organized life of modern civilization such a map is a necessity, and practically every European state is hence possessed of one and keeps it constantly revised. In keeping with the European tradition, mapping is there in the hands of the military. With us, national mapping is conceived to be a civil function, and the establishment of a civilian bureau, the U. S. Geological Survey, in 1879 marks the beginning of our unified program of systematic mapping. To be sure, the organic act did not specify topographic mapping as one of the Survey's functions, but it soon was introduced as a necessary prerequisite to "the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain" prescribed in the act, until, definitely recognized by Congress from time to time by relevant appropriations, it became one of the Survey's major functions. The anomaly of this situation, in which an activity that in other countries is recognized as requiring the undivided attention of an entire organization by itself becomes only one among several, and casually introduced at that, should constantly be borne in mind when criticism is leveled at the topographic work of the Survey.

No criticism can apply to the quality of the work in the last 25 or 30 years, but exception has legitimately been taken to the slowness with which the work has been proceeding. To date only 47 per cent of the area of the country has been systematically mapped and only about 26 per cent adequately. This is hardly a satisfactory showing for the second greatest nation in the world in point of combined area and population of the homeland, particularly in view of the progress that has been made in such countries as India, as was pointed out in The American Year Book for 1934, (p. 754.) The outstanding question is hence that of expediting the completion of the topographic map of the United States. Proposals as to how this can be accomplished were the subject of reports by two commissions during the past year, one by the Science Advisory Board and the other by the Board of Surveys and Maps.

SCIENCE ADVISORY BOARD REPORT ON SURVEYING AND MAPPING

The Science Advisory Board was established by Executive Order of President Roosevelt on July 31, 1933; its tenure expired on Dec. 1, 1935. On March 28, 1934, the Board was requested by the Director of the Budget to report on the question of the advisability of creating a consolidated Federal surveying and mapping service. As a result a Committee on Mapping Services of the Federal Government of seven members was appointed, with Douglas Johnson, professor of physiography, Columbia University, as chairman. The report of the committee was completed in November, 1934, and transmitted to the President on Nov. 17 (later published in ''Second Report of the Science Advisory Board'' for 1934-35, Washington, 1935, pp. 131-306). The report is the most comprehensive that has ever been issued on the subject and contains an invaluable summary of the 15 previous investigations of this nature that have been undertaken since 1842.

The present investigation found the ''Federal surveying and mapping activities . . . to be enormous in volume, of confusing variety, and to have developed independently and often without correlation in many different executive agencies. As an inevitable result duplication of effort and waste of funds have sometimes resulted. Subsidiary surveying services have occasionally grown to great mapping units in abnormal situations, causing inefficiency and waste.''

Distinguishing between surveying and mapping activities which constitute a major function of a bureau and those which are merely a subsidiary service incidental to a bureau's major functions, the report divides the 28 agencies that the committee studied into four classes and recommends a change with regard to only one class, comprising three bureaus and parts of one other. The report recommends consolidating into a central surveying and mapping agency the Coast and Geodetic Survey, the Topographic Branch and the Division of Engraving and Printing of the Geological Survey, the United States Lake Survey, and the International Boundary Commission (United States, Alaska, Canada). The central mapping agency thus constituted, for which the title ''United States Coast and Interior Survey'' is proposed, should have exclusive control of all primary surveying and mapping activities properly contributing to the standard map of the country and its adjacent waters. Certain alternative recommendations for other plans of consolidation are also proposed.

The report recommends that the central mapping agency, if and when established, consider the completion of the standard topographic map (on the scale of 1:62,500, or 1:125,000 in mountainous areas where mapping is already far advanced on that scale) to be its first major objective and that, where urgent Federal needs require the central agency to undertake topographic mapping on scales greater than 1:62,500, it make certain that such scales, so far as practicable, be selected as will enable the published results to form part of later and more detailed standard maps of the country.

As to the economies which would result from the proposed consolidation, the report, while recognizing that the statement of exact figures when so many unknown quantities enter into the problem would be misleading, indicates that the order of magnitude of direct savings from consolidation would be between $2,000,000 and $3,000,000 annually on the assumption of a mapping program calling for $15,000,000 a year. To this should be added the indirect savings, to be measured in millions of dollars annually, which will accrue to the nation as a whole if topographic maps are everywhere available where needed for the great variety of engineering, industrial, and civic developments that are peculiarly dependent on such maps.

The President expressed appreciation of the report, and steps were considered for putting its recommendations into effect. Difficulties, however, were encountered, arising in part from ambiguity in the terms of legislation fixing the expiration date of the President's powers to reorganize executive departments. It is hoped that, under a more favorable combination of circumstances, further consideration can be given to the suggestions offered by the Science Advisory Board in this report for the coordination and acceleration of the mapping work of the Government.

BOARD OF SURVEYS AND MAPS REPORT

The Board of Surveys and Maps of the Federal Government was created by an Executive Order issued by President Wilson on Dec. 30, 1919, "to coordinate the activities of the various map-making agencies of the Executive Departments of the Government, to standardize results, and to avoid unnecessary duplication of work" (on the work of the Board, see *inter alia* THE AMERICAN YEAR BOOK, 1926, p. 865; 1934, p. 222). The Board of Surveys and Maps includes representatives of 24 of the Federal map-making agencies. It serves as a clearing house for information of mutual interest among these agencies; its decisions have recommendatory, not mandatory force. The report of the Board on a national mapping plan was prepared at the request of the National Resources Board and, dated Oct. 29, 1934, is published in the "Report on National Planning and Public Works in Relation to Natural Resources" issued by the National Resources Board on Dec. 1, 1934. The report is accompanied by two maps of the United States on the scale of 1:11,600,000, one differentiating the areas proposed to be surveyed according to three classes of priority and the other showing the present status of the topographic map differentiating according to scales of published sheets and quality of underlying survey. This is the first official map ever published, which, by indicating these two elements, adequately reflects the actual condition of the enterprise. The preparation of such a map was urged in September, 1934, by the Science Advisory Board when cooperating with the National Resources Board, and specifications were supplied for it. A slightly refined version in 1:14,000,000, with additional insets showing the status of mapping in Alaska and Hawaii, was published in the *Geographical Review* (Vol. 25, 1935, Pl. 2).

The report itself advocates the use of aerial photography for the rapid completion of the topographic map of the United States, recommending compilation from aerial photographs differentiated as follows in field and publication scales according to type of land covered:

(1) The compilation of planimetric base maps from aerial photographs taken on a scale of about 1:20,000 of all of the unmapped or inadequately mapped agricultural lands in the Eastern and Southern States, where the boundaries of farms and fields are irregular in shape and most fields are relatively small, and of other areas of extreme economic importance, estimated to cover in all about 300,000 square miles; the publication of preliminary sheets of these areas without contours on a scale of 1:24,000; and the preparation of the corresponding contour maps as soon as practicable after the planimetric maps are available and their publication in advance-sheet form on the scale of 1:31,680 and in final form on a scale of 1:62,500.

(2) The compilation of planimetric base maps from aerial photographs taken on a scale of about 1:31,680 of all of the unmapped or inadequately mapped agricultural lands in states where individual farms and fields are relatively large and regular in shape, and of other areas of moderate economic importance, estimated to cover in all about 1,216,000 square miles; the publication of preliminary sheets of these areas without contours on the scale of 1:31,680; and the preparation of the corresponding contour maps as soon as practicable after the planimetric maps are available and their

publication in advance-sheet form on the scale of 1:48,000 and in final form on the scale of 1:62,500.

(3) The compilation of base sheets by adequate use of aerial photography of all other unmapped or inadequately mapped areas of minor economic importance, such as rugged mountains and sparsely settled deserts, estimated to cover in all about 700,000 square miles; no preliminary sheets without contours to be published of these areas but contours to be added as soon as practicable after the base sheets are prepared. The results to be published in advance-sheet form on the scale of 1:96,000 and in final form on the scale of 1:125,000.

The report recommends that the entire mapping program be financed from Federal funds. It is well known that dependence by the U. S. Geological Survey on state funds to match Federal funds has been a cause contributing to the delay in completing the map. On the assumption that the required funds will be made available with assured regularity, the Board of Surveys and Maps submits a program that will lead to the completion of the map (survey of 2,200,000 square miles, of which 740,000 square miles are to be resurveyed) in ten years at a cost of $117,500,000.

SURVEYS IN THE SOUTHERN APPALACHIANS

It is not the purpose of the present report to survey the routine operations, important as they are, of the map-making agencies of the Government during 1935. A list of the main agencies is given in THE AMERICAN YEAR BOOK, 1934 (pp. 222-223); the details of these activities will be found in the annual reports of these bureaus, which are based on the fiscal year, which ends June 30 (the 1935-36 reports and some of the 1934-35 reports have not yet been issued). Rather, attention will be directed to a few of their distinctive undertakings and publications.

In the last few years the U. S. Geological Survey, in connection with the establishment of National Parks in that area and in furtherance of the work of the Tennessee Valley Authority, has surveyed and published maps of considerable areas in the Southern Appalachians that had hitherto only been represented by early surveys now inadequate in scale and content. Of the new Shenandoah National Park in Virginia and the Great Smoky Mountains National Park on the Tennessee-North Carolina border, advance contour sheets in 1:24,000 have been published, of the former 19 sheets and of the latter 25 sheets. Of each of these two parks a more general contour map in 2 sheets on the scale of 1:62,500 has been issued. For the TVA a similar series in 16 sheets of the area northeast of Asheville, N. C., was published. For the same organization over 45 so-called planimetric sheets, *i.e.* sheets prepared from aerial photographs and showing drainage, woodland, and culture but no contours, have been published, especially in the extreme southwestern corner of Virginia. Numerous other sheets of this type are under preparation in the same state and in North Carolina and Tennessee.

The pressing need for basic maps has led the Geological Survey to the compilation and publication of an increasing number of these planimetric maps, usually on the scale of 1:31,680, each sheet representing one quarter of the standard sheet in 1:62,500. Over 200 sheets have been published in Michigan and Louisiana. While these maps are welcome additions to the regular series in an emergency, it is to be hoped that the plan to supply the missing contouring will not lag too long. Better still would be the wide adoption of photogrammetry and stereoscopic plotting as the surveying and mapping technique, by means of which all elements of the map, including the important third dimension of relief, could be determined with speed and accuracy.

SECTIONAL MAPS OF THE UNITED STATES

Four series of general maps of the United States in sections call for mention. The Sectional Airway map of the United States in 1:500,000 (see THE AMERICAN YEAR BOOK, 1929, p. 633; 1934, pp. 225 and 754-755) being published for the Bureau of Air Commerce of the Department of Commerce by the Coast and Geodetic Survey, is increasing its rapid progress. Fifty-seven of a total of 87 sheets are now available, 30 sheets having been issued in the past year. Practically the whole country east of the 102nd meridian is now covered, and of the area to the west of that meridian essentially only the Great Basin and central Rocky Mountain sheets await completion. The compilation of the remaining 30 sheets is finished so that the end of this major undertaking is in sight. It will be the first sheet-map in existence of the United States on a relatively large scale showing relief, and but for the limitation of undifferentiated elevations below 1,000 feet mentioned in last year's report (p. 755) could readily fulfill the function of the International Map of the World in 1:1,000,000 for the area of the United States, especially as the prospects of completing our share of that undertaking (43 sheets, of which only 4 have been published in 24 years) appear increasingly unfavorable.

An air map of the United States on this smaller scale has, however, also enterprisingly been started by the Coast and Geodetic Survey. Two sheets encompassing the belt between the 38th and 44th parallels and extending from Portland, Maine, to St. Louis have been published under the title "Regional Aeronautical Chart" on the scale of 1:1,000,000. Each sheet appears in an extra edition containing on the back a night-flying chart of the same area. The series is to comprise 17 sheets.

The first sheets of the Transportation Map of the United States in 1:250,000 being compiled and printed by the Geological Survey for the Bureau of Public Roads of the Department of Agriculture, to which reference was made in THE AMERICAN YEAR BOOK, 1934 (p. 224), have begun to appear. The whole series is expected to comprise 439 sheets and to be issued in state units. Two sheets each have appeared of Maine and Florida and eight (all) of Iowa. The main purpose of the map is, of course, to give detailed road information, but the map is also of general geographical interest because of the relatively large-scale representation of the other features shown, although some of these, particularly drainage, seem to be merely enlarged from the Geological Survey's state base maps in 1:500,000 (see THE AMERICAN YEAR BOOK, 1915, p. 607).

A limited edition was printed for the Corps of Engineers of the Army of a 23-sheet map of the United States on the scale of 1:1,250,000. This map is an enlargement of the 1:2,500,000 map of the Geological Survey, on which minor corrections and additions have been made.

SOIL ATLAS OF THE UNITED STATES

The outstanding map publication of the year by the Department of Agriculture is the soil atlas of the United States by C. F. Marbut, principal soil scientist in charge of Soil Survey, Bureau of Chemistry and Soils, published in Part III of the *Atlas of American Agriculture*. It consists of a soil map of the United States on the scale of 1:2,500,000 in 12 sheets on which no less than 243 colored symbols are used to denote the different soil types represented. The map and the accompanying text represent an interpretation and systematization of all the data collected by the Soil Survey since its inception in 1899 and constitute a fitting culmination to the life of the author, who died in August, 1935, in Harbin, Manchuria, on his way to China to undertake a study of Chinese soils at the request of the Chinese Government. The atlas also contains several general maps of the United States in 1:8,000,000 showing the distribution of the great soil groups, the distribution of the parent materials of the soils, the areas covered by the Soil Survey, etc. The maps, engraved by the firm of A. Hoen and Co., Baltimore, and especially the main map in 1:2,500,000, with its intricate color pattern clearly differentiating individual symbols and at the same time reflecting the larger group associations, represent the acme of the lithographer's art.

SOIL EROSION MAPS

The gravity of the soil erosion problem in the United States is apparent from these estimates of its ravages: 9 per cent of our 413,000,000 acres of cropland have been completely ruined, 30 per cent partially ruined, and 24 per cent are potentially subject to destruction. In order to take this problem in hand, the Soil Erosion Service was created in October, 1933, under the Department of the Interior and in March, 1935, transferred to the Department of Agriculture under the title Soil Conservation Service. The result of its reconnaissance surveys of soil erosion are laid down in a series of 28 maps, one of the United States on the scale of 1:5,000,000, which represents a fourth refined edition of the Service's original map, and 27 separate maps covering 31 states, usually on the scale of 1:500,000. On these is shown the kind and degree of erosion in much detail.

STATE GEOLOGICAL SURVEYS

By Arthur Bevan

Secretary, Association of American State Geologists

GENERAL

Modern civilization depends upon the conservation and development of mineral resources. As an aid to the development of their diverse mineral resources, 39 states had active geological surveys during 1935-36. Available appropriations during this fiscal year were approximately $953,550. This amount was increased $241,050 by the U. S. Geological Survey and by state, county, and local organizations and individuals cooperating with state surveys, making $1,194,600 which was devoted to the inventory and development of state mineral resources. Some PWA (Public Works Administration) allotments were made for the study of mineral resources in cooperation with state surveys. Approximately 95 geologists and 57 other technical workers were employed full time and 135 geologists and 67 other workers part time on 418 state survey projects, including mineral resource, geologic, topographic, soil survey, stream gaging, and other projects. Some 281 technical reports and maps were prepared for publication or published.

BASIC GEOLOGY*

Alabama.—Paleontology of the Coastal Plain.

California.—Geologic map of State (with U. S. Geological Survey); geology of Shasta copper belt, northern Sacramento Valley, Perris-Elsinore region, Marin and Sonoma counties; borate deposits, sand deposits, Hetch Hetchy tunnels, landslides; Amboy, Kaweali, Lucia, Ludlow, Searles Lake, Trinidad, and Ventura quadrangles.

Connecticut.—Bedrock geology of western highlands.

Florida.—Studies of well cuttings.

Georgia.—Geologic map of crystalline area completed.

Illinois.—Studies of carbon ratios of Illinois coal and gravity of Illinois oil, chemical nature of coal, petrology of coal, lithologic and botanical constituents of Illinois coals; petrology of Illinois clays; Pennsylvanian stratigraphy, paleontology, and paleobotany; Chester ostracods; Glenwood formation; subsurface studies of Paleozoic formations; Pleistocene system; constitution of Wisconsin drift, and beidellite. Completed banded ingredients of No. 6 coal; simplification of Parr unit coal formula; ash-to-mineral-matter correction in coal analyses; unit coal as a basis of coal standardization as applied to Illinois coals; studies of the graphical method of calculating pure coal calorific values.

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* To conserve space, projects under each classification are listed without description. Details are available from the respective state geologists.

Indiana.—Cooperative physiography of lower Wabash region; completed mapping of glacial boundary.

Iowa.—Pennsylvanian stratigraphy; glacial studies; stratigraphy of State; geomorphology of northeastern Iowa.

Kansas.—Geologic map of State; Big Blue series; Cretaceous paleontology; Mississippi lime; geology of Rush, Logan, and Jewell counties; fusulinids of Kansas. Completed shoestring sands of Butler and Greenwood counties and stratigraphic classification of Pennsylvanian rocks.

Maryland.—Studies of Carboniferous and Triassic systems and crystalline rocks.

Minnesota.—Origin of anorthosites; structural geology of Archean and Huronian rocks of the Vermilion area; stratigraphy of southern Minnesota.

Mississippi.—Eocene sediments; Vicksburg National Military Park area.

Missouri.—Stratigraphic field and laboratory studies; Pennsylvanian stratigraphy; pre-Cambrian igneous rocks; electric resistivity; magnetic field work.

Montana.—Correlation Quadrant formation; paleontology of Paleozoic formations; correlation of Cambrian beds.

Nebraska.—Pleistocene geology; Tertiary stratigraphy; Pennsylvanian bryozoa and ostracods; Harville uplift of Wyoming.

New Jersey.—Continued accumulation of local geologic data.

New York.—Geology of Berne, Catskill, Cattaraugus, Clyde, Coxsackie, Morrisville, Newburg, Oriskany, Oswegatchie, Piseco Lake, Potsdam, Randolph, Skaneateles, Sodus Bay, and Wellsville quadrangles; glacial geology of Catskill Mountains.

Ohio.—Structure of deep-seated rocks and their correlation; areas in coal formations; structures and correlation of deep sands.

Oklahoma.—Stratigraphic and areal geology.

Pennsylvania.—Silurian and Devonian stratigraphy; geologic mapping of Brookville, Hanover, Meyersdale, New Cumberland, and York quadrangles; Fayette and Lehigh counties.

South Dakota.—Stratigraphy of Pierre shale.

Texas.—Geology of Leon County; monograph on Carboniferous and Permian ammonites.

Vermont.—Geology of Memphremagog quadrangle; structural geology of Green Mountains of northern Vermont.

Virginia.—Geology of entire Appalachian Valley, Brunswick, Giles, Russell, and Scott counties, Hot Springs district, Piedmont region, Shenandoah National Park area, Stony Man quadrangle, State parks; Great Gossan Lead; Cambrian and Eocene formations; Helderberg limestones; geology of Big A Mountain area; Lovingston granite; natural wonders.

Washington. — Geologic map of State completed; Cretaceous of Cascade Mountains; gneisses and schists of Kettle Range.

West Virginia.—State isopach maps by geologic series.

Wisconsin.—Field and laboratory studies of Cambrian rocks, Oneota dolomite, and Niagara dolomite.

Wyoming.—Geologic maps of Albany, Carbon, Laramie, and Natrona counties completed; Jurassic rocks; geology of Carbon County, Seminole Mountains, and part of Red Desert.

OIL AND GAS

Arkansas.—List of oil and gas wells; oil shales of north part; report on natural gas compiled.

Illinois.—Physical tests of oil sand cores; subsurface oxidation of petroleum in oil sands repressured with air; acid treatment of oil wells; corrosion protection for oil well casing; data on repressuring plant methods; studies of water flooding; removal of emulsion from oil; revised study of carbon ratios of Illinois coal and gravity of Illinois oil.

Indiana.—Oil and gas developments.

Kansas.—Oil and gas fields of State.

Kentucky.—Laboratory established for analysis of cores.

Louisiana.—Studies of oil and gas fields.

Michigan.—Completed cross section of the State and maps of oil and gas fields; report on oil and gas developments; completed report on natural gas (with U. S. Bureau of Mines).

Missouri.—Oil and gas studies.

Montana.—Occurrence of natural gas.

New York.—Studies of natural gas and petroleum.

Ohio.—Survey of additional oil and gas areas.

Oklahoma.—Oil and gas leasing for School Land Commission.

Pennsylvania.—Study of deep sand drilling for oil and gas in northwestern part; Bradford oil field.

Tennessee.—Oil and gas resources; Gainsboro quadrangle.

Washington.—Oil and gas in Skagit County.

West Virginia.—Oil and gas in Wetzel County; natural gas study in cooperation with Public Service Commission.

COAL, COKE, AND PEAT

Alabama.—Warrior coal field.

Illinois.—Constitution of sized coals and commercial coal fines; agglutination tests; coal dust as a source of fusain for coking coals; smokeless coal briquettes; use of Illinois peat in the manufacture of light-weight products; coal carbonization information; gas, coke and by-product making properties of coals; general coal report; investigation of the physical properties of coal under the variables, temperature, pressure and time; composition and fusibility of ash from Illinois coals; proximate and ultimate analysis of coal; classification of Illinois coals. Completed influence of structural irregularities upon the chemical character of No. 6 coal in Franklin and Williamson counties; distribution of sulphur, mineral matter of No. 6 coal at West Frankfort.

Iowa.—Studies of Iowa coals.

Ohio.—Investigations coal formations.

Pennsylvania.—General studies of coal.

METALLIC MINERALS

Alabama.—Brown ores; magnetometer survey of southwest pact completed.

Arizona.—Geology and ore deposits of Tombstone district.

Arkansas.—Statistical summary of mineral production; directory of mineral producers; commercial minerals of Magnet Cove; study of manganese carbonates.

California.—Mines of Kern, Placer, San Luis Obispo, and Siskiyou counties; spectrographic analysis of gold; geology of Grass Valley district (with U. S. Geological Survey); geology of Bodie district.

Georgia.—Gold deposits.

Idaho.—Cooperative studies of Burgdorf-Warren, Murray-Pritchard, and Boise Basin districts; completed east part of Yellow Pine district.

Missouri.—Lead and zinc deposits; iron ores.

Montana. — Chromite deposits; treatment of chromite ores; gold of Highland district; geology of Flathead mine area; geology and ore deposits of Neihart and Rochester districts completed; basic studies in flotation; staining technique in mineralography.

Nevada.—Geology of Tonopah district, central Humboldt Range, and Comstock lode.

New Mexico.—Ore deposits of San Miguel County; geology and ore deposits of the Little Hatchet Mountains; Organ Mountains.

North Carolina.—Gold deposits.

Oklahoma.—General studies.

Virginia.—Iron deposits; Goochland County; Great Gossan Lead; lead and zinc district; gold belt.

Washington.—Ore deposits of Metaline district.

West Virginia.—Cooperative publication on manganese.

NONMETALLIC MINERALS

Alabama.—Limestone and dolomite; barite deposits completed.

Arkansas.—Porosity of sandstones and shales.

Florida.—Sedimentary kaolins.

Georgia.—Kyanite and vermiculite deposits completed; bleaching clays.

Illinois.—Fluorspar-chemical derivatives, decolorization of clay and silica, physical properties of clays, beneficiation of fuller's earth, Anna kaolin as a decolorizing agent, sand and clay for synthetic molding sand; structure of Illinois Basin; electrical resistivity survey of buried sand and gravel deposits; building stone, clays, dolomite, rock wool materials, sand and gravel, shales, silica, and tripoli; statistical review for 1934.

Kansas.—Road materials.

Kentucky.—Mineral operators of State.

Louisiana.—Geology of Cameron, Catahoula, Concordia, Plaquemines, St. Bernard, and Vermilion parishes; caprocks of salt domes; Miocene foraminifera; Eocene ostracods completed.

Maryland.—Studies of igneous rocks using ''Cloos'' technique.

Michigan.—Well samples and records; reports on mineral resources and foundry sands.

Minnesota.—Geology of the Minneapolis-St. Paul area. Report on building stones.

Mississippi. — Highland Church sandstone; geology of bridge sites and other structures.

Missouri.—Fire clays, clay resources, dolomites for rock wool; chemical studies of bleaching clays; ceramic studies.

Montana.—Report on clay resources and directory of mines.

Nebraska.—Studies of clays.

New Jersey.—Mineral production for 1933.

New Mexico.—Reports on nonmetallic minerals and pegmatites of Taos and Rio Arriba counties.

New York.—Mining and quarry bulletin.

Ohio.—Sampling and analysis of limestones, brines, marls, and iron ores; report on shales.

Oklahoma.—Rock wool; asphalts and other road materials; phosphates; barite; sundry minerals.

Pennsylvania.—Clay sampling and testing; nonmetallics, stone, and white clays; subsurface stratigraphy of northwestern part.

Tennessee.—Clay and shale resources.

Texas.—Building stones; report on geology of Texas.

Vermont.—Report on mineral industries.

Virginia.—Barite; commercial granites; slate; talc and soapstone; mineral resources of Abingdon quadrangle, Natural Bridge district, and Giles, Russell, and Scott counties.

Washington.—Nonmetallic resources and magnesite.

West Virginia.—Building stones, brines, and mineral statistics.

Wyoming.—Asbestos; saline lake deposits.

GROUND-WATER RESOURCES

Arkansas.—List of water wells.

Florida.—State resources.

Indiana.—Cooperative establishment observation wells. Report on ground water published.

Iowa.—General studies. Report on deep wells.

Maryland.—Projects on rock floor of Baltimore City.

Michigan.—Cooperative studies shallow ground-water supplies for forest fire suppression.

Minnesota.—Minneapolis-St. Paul area and northeast part.

Missouri.—State resources; water analyses.

Montana.—Southeastern part.

Nebraska.—Central Platte Valley area completed.

New Jersey.—Well records.

Oklahoma.—Municipal and rural supplies.

Pennsylvania.—South-central part completed; report on northwestern part.

South Dakota.—Artesian and city supplies.

Virginia.—Cooperative studies in northern part and Shenandoah Valley.

Washington.—Municipal supplies.

West Virginia.—Report on mineral springs.

GEOLOGIC AND TOPOGRAPHIC MAPS

Most state surveys are making geologic, mineral resource, and topographic maps, in part cooperatively with the U. S. Geological Survey and other organizations.

California.—Geologic map of State; fossil locality map; mineral locality map.

Georgia.—Geologic map of State in press.

Idaho.—Topographic map of Edwardsburg district.

Illinois.—Topographic mapping on eight quadrangles; field sketching completed on 11 quadrangles. Federal publication of topographic maps of 14 quadrangles in progress; engraved maps issued of eight quadrangles.

Kansas.—Completed contour map of topography of pre-Cambrian surface under eastern part, geologic maps of northwestern part and southwestern part, structure map of southeastern coal fields and the zinc-lead district.

Kentucky.—Revision of structural map of State.

Louisiana.—Topographic maps of 23 quadrangles in cooperation with U. S. Geological Survey.

Maryland.—Topographic map of rock floor and on depth of overburden to rock floor under Baltimore. Issuing an atlas containing base, hypsometric, geologic, soil, climatological, and political maps of State.

Michigan.—Hard rock geology map of State; eight base and structure maps of oil and gas fields; geologic cross section of State, base map of Isle Royale, and 20 township groundwater maps completed.

Missouri.—Topographic mapping in cooperation with U. S. Geological Survey and WPA.

Montana.—Geologic map of State.

Nebraska.—General bed-rock map completed; State land-use map; geologic maps of four counties completed; soil survey maps of seven counties; topographic maps of three quadrangles.

New Jersey.—Revision of topographic maps.

Pennsylvania.—Topographic maps of nine quadrangles in progress or being published.

Tennessee.—Traverse maps completed of three counties.

Vermont.—Topographic maps of four quadrangles completed or being published.

Virginia.—Cooperative topographic mapping in progress on 10 quadrangles; completed on four quadrangles; being published on 10 quadrangles.

Washington.—State geologic map completed.

West Virginia.—Published geologic maps of three counties.

Wyoming.—Geologic maps of four counties.

MISCELLANEOUS PROJECTS

Numerous other projects include study of caves and caverns and the drafting of a set of county maps by Arkansas; preparation of school museum sets of common rocks and minerals by Georgia; Geographic Atlas of State, in cooperation with Geographic Society of Chicago, and cooperative work on soils, by Illinois; assistance to ECW* and State conservation projects by Indiana; cooperative WPA projects by Missouri; beach erosion studies by North Carolina; cooperation with State Park Board by Oklahoma; reports for State Planning Board and preparation of school sets of minerals, rocks, and economic products by Virginia; bibliography of geology and mining by Washington. Other State surveys are also engaged in numerous projects, in part cooperatively.

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*Emergency Conservation Work.

RECLAMATION AND IRRIGATION

By Elwood Mead

Commissioner, Bureau of Reclamation, Department of the Interior

IRRIGATION PROJECTS AND RESULTS

The Reclamation Act was approved June 17, 1902. Congress passed this act in order that arid and semi-arid lands suitable for irrigation farming in the western public land States might provide homes for citizens and make beneficial use of two of its national assets—land and water. There are 38 projects located in whole or in part in 15 of the arid States. On June 30, 1935, 33 years after the passage of the Reclamation Act, a volume of water had been impounded in reservoirs or diverted from regular stream channels sufficiently large to irrigate approximately 2,000,000 acres of project lands, and to furnish supplemental irrigation under the Warren Act of Feb. 2, 1911, to about 1,500,000 acres of land having, without this aid, an insufficient water supply for full crop production. The average per acre value of the crops produced during 1934 was $36.65, or a total crop value from land receiving water from Federal project works of $100,943,714. During the existence of the Bureau of Reclamation more than $2,071,183,705 worth of crops has been produced on the projects.

The value of livestock in 1934 on the Federal irrigation projects was $14,985,299, and that of farming equipment $30,292,032, or a total stock and equipment value of $45,277,331. The lands on the projects, brought under irrigation by the efforts of the Bureau, excluding Warren Act lands for which statistics are not available, have been divided into 43,569 farms on which live 181,929 individuals. In addition there are 224 towns and cities on or adjacent to the projects, with a population of 498,158, a considerable part of which derive their support indirectly from the activities of these projects. There are also on the projects 736 schools, 798 churches, 97 banks, and a great variety of manufacturing enterprises which make use of the products of the projects.

ENGINEERING WORKS

The Bureau of Reclamation at the close of 1934 had constructed 58 storage dams and had five under construction, with a total volume of 25,892,200 cubic yards, and 51 diversion dams containing 1,345,470 cubic yards. The storage reservoirs have a combined capacity of 14,618,320 acre-feet of water, or 4,763,394,000,000 gallons. In addition to these dams, 13 storage and 9 diversion dams have been built by the bureau on Indian irrigation projects. The completed canal systems include 17,900 miles of canals, ditches, and drains, 170,700 canal structures, 12,530 bridges, 16,740 culverts, 5,680 flumes, 1,510 miles of roads, 4,200 miles of telephone line, and 3,800 miles of transmission line. Excavation of earth, rock, and indurated material amounts to 327,000,000 cubic yards. At Boulder Dam four diversion tunnels, each 50 feet in diameter, with a total length of 3 miles, have been constructed. Two of these tunnels will be used to deliver water to the power penstocks connected to the turbines at the power plant, and the other two for spillway outlets. There are also two 37-foot diameter tunnels leading from the downstream intake towers to penstocks and outlet works. On the Owyhee project, Oregon-Idaho, in order to get water out of the Owyhee River Canyon to the irrigable lands, it was necessary to construct tunnels at a cost of about $4,000,000. The main canal on the Vale project in Oregon is 75 miles in length and also involved tunnel construction. On the Gooding division of the Minidoka project, Idaho, a 70-mile main canal takes out at the Milner Dam on the Snake River and delivers water to lands near Gooding and Shoshone.

OWYHEE DAM

From an engineering standpoint the Owyhee dam, completed in 1932, on the

Owyhee River in eastern Oregon, is one of the most outstanding dams undertaken by the Bureau of Reclamation. With a height of 405 feet at maximum section and a total height of 520 feet above the lowest concrete in the foundation cut-off, this structure ranks third among the high dams being exceeded only by Boulder, 726 feet, and Sautet in France, 446 feet. It is of the concrete arch-gravity type, with a crest length of 850 feet, top thickness of 30 feet, and bottom thickness at maximum section of 265 feet. There are 490,000 cubic yards of concrete in the dam. Work on the dam was begun in August, 1928, and the structure was completed in 1932. The cost of the dam and appurtenant works was $6,700,000.

BOULDER DAM

The Boulder Dam in Black Canyon on the Colorado River, completed in 1935, is by far the highest dam in the world. The site is on the Arizona-Nevada state boundary line, about 25 miles southeast of Las Vegas, Nev., and 80 miles north of Needles, Calif. The dam is 726 feet in height above bedrock, with a crest length of about 1,232 feet, and will raise the water surface of the river 584 feet. It is of the arch-gravity type and contains 3,400,000 cubic yards of concrete, with 4,400,000 cubic yards in dam and appurtenant works. The concrete in the dam weighs 7,000,000 tons, and 5,500,000 barrels of cement were used. There are 93 tunnels on the project. Plate-steel outlet pipes 30 feet in diameter, place in 50- and 37-foot diameter concrete lined tunnels lead from 380-foot intake towers in the reservoir to the power plant and outlet works. A reservoir of 30,500,000 acre-feet capacity will be formed by the dam. The reservoir will be 115 miles long, with an area of 146,280 acres, and will take about four years to fill. The Boulder Canyon project act authorized the construction of three features—dam, power plant, and All-American canal. Plans for the power plant contemplate an installation of approximately 1,835,000 horsepower. Four 115,000-horsepower units and one 55,000-horsepower unit comprise the initial installation, and generation of power will be started early in 1936. There are about 1,800,000 acres of irrigable lands below the reservoir. It is estimated that the project will cost $165,000,000, divided as follows: dam and reservoir, $70,600,000; power development, $38,200,000; All-American canal, $38,500,000; interest during construction, $17,700,000. The reservoir has now become a reality. As such it furnishes recreational attractions — boating, fishing, and camping.

The site of Boulder City, the construction headquarters for the workmen of the Boulder Canyon project, about six miles west of Boulder dam site, was until early in 1931 a desert waste. Immediately upon approval by the Secretary of the Interior of plans for its development a model town seemed to spring up as if over night. Careful planning by an experienced city planner and landscape architect resulted in the establishment of a beautiful and up-to-date city which furnishes all the comforts and conveniences within the Government's power to provide, and with the impelling material development the social, religious, recreational, educational, and cultural needs of the community have not been neglected. With the completion of the project the city will still be one of importance and permanence and will continue to house the staff of persons employed to operate the project and administer its affairs.

COLUMBIA BASIN PROJECT

In the eastern part of north central Washington, 80 miles west of Spokane and 20 miles north of the small town of Almira, another great project of the Bureau of Reclamation is in the preliminary stages of construction. The Grand Coulee dam, the second barrier for harnessing the power of the Columbia River, will eventually be the means of establishing an empire of 20,000 to 50,000 drought-free farms in an area that has been semi-arid since time began. Through the ages the Columbia River has cut a narrow canyon 1,000 feet in depth below the level of the surrounding plain for a distance of 300 miles south of the Canadian border. In the vicinity of the dam, which is about 150 miles by river from the border, this canyon has been carved through the overlying basalt and for a depth of 500 feet into the fine-grained granite which underlies the entire area. On each side of the river at the dam site is an exposed outcrop of these granite walls, forming natural abutments, and core drill exploration has shown ideal foundation conditions over the area upon which the dam will be constructed.

Mason City is the contractor's camp at the Grand Coulee dam. It is located in approximately north central Washington, about 85 miles west of Spokane, and although it is not of as permanent type of construction as the Government camp, now nearing completion, directly across the river, it does not give one the impression of a "camp", but rather that of a substantial and modern city of comfortable homes for the 3,000 employed in the building of the immense dam and powerhouse. The MWAK Company claims an investment of practically $1,000,000 in Mason City. Mason City has several unique features, and undoubtedly the most outstanding, certainly the one of greatest popular interest, is that here is a city entirely without chimneys and smoke. Except for the larger, or main floor areas in the recreation hall, general store, and the mess-hall, the entire city is electrically heated.

CONSTRUCTION FINANCING

The Reclamation Act of 1902 provided that the proceeds obtained from the sale of public lands in 16 of the arid Western States should be used by the Secretary of the Interior for the examination and survey for, and construction and maintenance of, Federal reclamation projects. Soon after the act became operative projects were selected and construction work began. The construction program adopted soon required all the funds made available by the act and an additional sum of $20,000,000 was needed, which was provided for by a loan from the United States Treasury under the act of June 25, 1910. An additional loan of $5,000,000 was granted in 1933. Of these loans $10,000,000 has been repaid. Other funds were made available by the Mineral Leasing Act of Feb. 25, 1920, and the reclamation fund was further supplemented from time to time by special acts by which funds were provided for special purposes. The receipts from the sale of public lands have very nearly reached the vanishing point and receipts from mineral leases have been decreasing during recent years. In 1933 funds were allotted under the National Industrial Recovery Act of 1933. Additional construction work will be undertaken during 1935 and 1936 with allocations from the Emergency Relief Appropriation Act of 1935. The Government had constructed up to June 30, 1935 reclamation projects costing about $330,000,000.

PUBLIC LANDS

By Fred W. Johnson

Commissioner of the General Land Office

AREAS IN SELECTIONS, ENTRIES AND FILINGS

The area included in original selections, entries, and filings made during the year was 1,759,078 acres, or 1,825,805 acres less than the area included in such entries and filings during the preceding year. The decrease, no doubt, was due to the temporary withdrawals of the public lands from entry and selection made by Executive Orders of Nov. 26, 1934, and Feb. 5, 1935. The area included in final entries, selections, and filings made during the year was 1,771,703 acres, or 546,671 acres more than were included in such entries during the preceding year. At the close of the fiscal year there were embraced in pending unperfected entries, filings and selections 19,666,693 acres, and the area which was included in outstanding licenses, leases and permits issued under the Mineral Leasing Act aggregated 11,307,677 acres.

LEGISLATION AND ADMINISTRATION

Proposed reports were submitted on 129 Senate and House bills, and necessary orders and instructions have been prepared in connection with 15 bills affecting the public lands which were enacted into law.

The activities of General Land Office are intimately associated with the work of the Office of Indian Affairs, the Geological Survey, the Bureau of Reclamation, the National Park Service, the Division of Investigations, the Division of Grazing, and the Division of Territories and Island Possessions, all of the Department of the Interior, with the Forest Service and the Biological Survey of the Department of Agriculture, the Bureau of Air Commerce of the Department of Commerce, the Federal Power Commission, and with other bureaus.

WITHDRAWAL OF PUBLIC LANDS FROM ENTRY

The vacant, unreserved and unappropriated public lands in the United States proper are not now subject to disposition under the non-mineral public land laws, having been temporarily withdrawn from settlement, location, sale or entry, and reserved for classification. The withdrawals were made subject to valid existing rights.

TAYLOR GRAZING ACT

The General Land Office, in cooperation with the Division of Grazing, has prepared various orders and regulations required in connection with the administration of the Taylor Grazing Act, approved June 28, 1934 (48 Stat. 1269). It has also prepared diagrams of the approved grazing districts. Thousands of inquiries relative to the operation of the law have been received and answered. There were prepared orders and diagrams for 19 proposed grazing districts and maps showing the exterior boundaries and appropriate designations of both established and proposed grazing districts.

VACANT, UNAPPROPRIATED AND UNRESERVED PUBLIC LANDS

(As of June 30, 1935)

State	District Totals	State Totals
	Acres	Acres
Arizona No. 1........	1,505,200	1,505,200
California No. 1......	1,293,595	
California No. 2......	577,308	1,870,903
Colorado No. 1.......	2,099,331	
Colorado No. 2.......	438,673	
Colorado No. 3.......	1,416,870	
Colorado No. 4.......	1,096,194	
Colorado No. 6.......	1,408,252	6,459,320
Idaho No. 1.........	4,181,445	4,181,445
Montana No. 1......	1,624,235	
Montana No. 2......	1,436,536	
Montana No. 3......	686,523	
Montana No. 4......	144,887	3,892,181
Nevada No. 1........	7,984,977	7,984,977
New Mexico No. 3....	2,692,940	
New Mexico No. 4....	2,437,649	
New Mexico No. 5....	1,110,926	
New Mexico No. 6....	2,533,933	8,775,448
Oregon No. 1........	90,000	
Oregon No. 2........	4,960,676	
Oregon No. 3........	2,785,957	
Oregon No. 4........	1,717,962	9,554,595
Utah No. 1..........	1,186,806	
Utah No. 2..........	2,868,422	
Utah No. 3..........	3,424,472	
Utah No. 4..........	2,065,080	
Utah No. 5..........	3,774,186	
Utah No. 6..........	3,749,431	
Utah No. 7..........	2,584,360	
Utah No. 8..........	149,982	19,802,739
Wyoming No. 1......	1,246,181	1,246,181
Total.........		65,272,989

WORK UNDER EMERGENCY FUNDS

The work of translating and transcribing the Spanish records in the Public Survey Office at Santa Fe, N. M., of land claims in the territory ceded in 1848 to the United States by Mexico commenced last year as a Federal Civil Works project, was continued through the fiscal year ended June 30, 1935, as a Federal Emergency Relief project. From six to 15 translators and transcribers were furnished with employment on this project.

The Civilian Conservation Camp established at Gillette, Wyo., for the purpose of controlling the coal fires in the public lands and privately-owned lands in which the coal has been reserved to the Federal Government, was continued through the third enrollment period until Oct. 15, 1934, and was reestablished June 5, 1935 for the fifth enrollment period.

The work of surveying the public lands and office work in connection therewith under the Public Works allotments for that purpose continued throughout the fiscal year. The field parties of the General Land Office were also engaged on a large project of cooperative work for the Agricultural Adjustment Administration involving the survey of submarginal lands being purchased by that organization in the eastern States.

ACTIVITIES OF THE GENERAL LAND OFFICE

Unappropriated and Unreserved Public Lands.—The area of the unappropriated and unreserved public lands as of June 30, 1934, was approximately 165,695,497 acres, not including Alaska and small areas remaining undisposed of in the States of Alabama, Arkansas, Florida, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Nebraska, Oklahoma, and Wisconsin. Of such area 119,341,782 acres were surveyed, and 46,353,697 acres were unsurveyed. The area of the unappropriated and unreserved public lands in Alaska was approximately 346,174,242 acres, of which 2,044,421 acres were surveyed.

In computing the areas which were vacant and unreserved on June 30, 1934, lands in pending, unallowed applications were considered as appropriated, but lands in applications for oil and gas prospecting permits, or in permits granted, or in applications for coal, phosphate, sodium, and/or sulphur, oil shale, or potash permits or leases, or in permits or leases granted, were considered as unappropriated. In view of the fact that the lands affected by the oil-shale order of withdrawal of April 15, 1930, or in designated geological structures of producing oil or gas fields, or in approved oil and gas leases, were then subject to disposition under the stock-raising homestead act, such lands were treated as unappropriated.

Because of the withdrawals made by the Executive Orders of Nov. 26, 1934, and Feb. 5, 1935, there were no unreserved public lands at the close of business on June 30, 1935. The area which would have been vacant and unreserved had such withdrawals not been made has not been computed.

Patented Mineral Reservations.—There also remained subject to lease or disposal 38,915,685 acres of patented lands in which the Government had reserved some or all of the mineral deposits, as shown by the following table:

	Fiscal year	Total reserved
	Acres	Acres
Stock-raising act, all minerals reserved.	1,049,607	26,102,816
Other acts:		
All mineral reserved	2,075	349,836
Coal only reserved..	10,544	10,762,649
Some named mineral reserved.....	25,228	1,700,384
Totals........	1,087,454	38,915,685

Other Areas.—The activities of the General Land Office also extend in various ways to 116,128,603 acres of land included in withdrawals and grazing districts and to more than 180,000,000 acres in national forests in the public land states and in Alaska, which are subject to all mining laws and to possible homestead entry under the act of June 11, 1906 (34 Stat. 233).

The areas under the control of the General Land Office, which on June 30, 1935, were included in mineral leases and permits, or entries, are shown by the following tables:

MINERAL LEASES AND PERMITS OUTSTANDING ON JUNE 30, 1935

	Licenses		Permits		Leases	
	No.	Acres	No.	Acres	No.	Acres
Oil and gas	—	—	6,441	10,143,163	898	312,536
Coal	141	5,617	348	251,947	378	72,749
Potash	—	—	192	409,407	12	29,465
Sodium	—	—	44	63,372	1	120
Phosphate	—	—	—	—	8	4,233
Sulphur	—	—	26	15,068	—	—
Totals	141	5,617	7,051	10,882,957	1,297	419,103

AREAS IN PENDING ENTRIES AS OF JUNE 30, 1935

(Alaska not included)

State	Acres
Arizona	2,143,382
California	1,516,562
Colorado	1,564,964
Idaho	1,130,948
Montana	1,942,300
Nevada	620,361
New Mexico	4,200,315
North Dakota	85,604
Oregon	910,269
South Dakota	417,214
Utah	690,937
Washington	181,137
Wyoming	4,119,820
General Land Office	142,880
Total	19,666,693

CADASTRAL ENGINEERING SERVICE

The Cadastral Engineering Service of the General Land Office is the Congressionally constituted agency having jurisdiction over the survey and resurvey of the public lands of the United States proper and Alaska, mineral location surveys, and the preparation of the technical and legal records thereof. In addition, the General Land Office participated in a program of land surveys for the Agricultural Adjustment Administration of the Department of Agriculture under an allotment of funds by the Federal Emergency Relief Administration, under its Land Use Program, so that the surveying activities have been more diversified than usual.

Cadastral surveying projects were located in 31 States and the Territory of Alaska under 149 separate groups of which total 36 groups in nine states were resurveys. That part of the work which can be measured on a quantity basis, which excludes investigations and many miscellaneous surveys, embraces 8,274 linear miles or 1,644,-

PUBLIC LAND WITHDRAWALS

(Other than mineral withdrawals and classifications)

	Total area withdrawn June 30, 1935
Stock driveways	9,761,196
Recreational area withdrawals	284,604
Air navigation sites	33,007
Carey act withdrawals	35,824
Carey act segregations	219,511
Reclamation withdrawals	21,919,957
San Carlos Irrigation Project (Indian)	136,860
Fort Hall Irrigation Project (Indian)	114,720
Fort Peck Irrigation Project, Montana	204,720
Bonneville Dam, Oregon-Washington	79,080
Water Power reserves (non-Indian)	5,223,178
Reservoir and well sites	254,130
Public water reserves	492,848
Los Angeles water supply*	866,365
Mizpah-Pumpkin Creek Grazing District	25,124
Grazing withdrawals (not including withdrawals under Taylor Grazing Act)	3,425,840
Grazing districts under Taylor Grazing Act	65,272,989
Oregon-California and Coos Bay unrestored timber land	1,245,832
For forest exchange with New Mexico	681,000
For game and bird refuges	162,705
For national forest purposes	157,903
For national parks and monuments	3,943,413
For New Mexico-Arizona Indian consolidation	1,134,972
For agricultural experiment stations	309,734
For flood and erosion control	10,750
For State game refuge classification	44,000
For recreational classification	43,793
For irrigation-power classification	30,880
For archaeological classification	11,297
Cooperative lookout stations	727
For miscellaneous purposes	1,644
Total	116,128,603

* Includes Owens River-Mono Basin Grazing District.

980 acres, comprising 1,040,670 acres of original surveys and 604,310 acres of resurveys. In addition, over 1,000,000 acres of irregular tracts of submarginal lands were surveyed for the Agricultural Adjustment Administration in 10 eastern States.

There were accepted and placed on file during the year plats representing 4,436,937 acres of original surveys of public lands, and 2,903,347 acres of resurveys.

RECEIPTS AND EXPENDITURES

Cash Receipts.—The total cash receipts from sales, leases, and other disposals of public lands were $4,700,135.47 and from sales of Indian lands $100,026.77, an aggregate of $4,800,162.24, all of which was deposited in the Treasury. The total expenditure from operations was $1,142,393, making a net return of $3,657,769.24.

Receipts under the Mineral Leasing Acts.—Receipts from bonuses, royalties, and rentals under laws providing for the leasing of mineral rights on the public domain aggregated $4,004,054.54. The largest receipts were from lands in California, the amount being $1,984,603.95. Wyoming was second, with receipts amounting to $1,391,220.92.

Distribution of Receipts.—Receipts from all sources, aggregating $4,800,162.24 as above shown, are distributed under the law approximately as follows: Reclamation fund, $2,304,493.24; to public land States and certain counties within such States, $1,802,027.58; general fund, $593,614.65, and to various Indian tribes, $100,026.77.

PATENTS

During the fiscal year 6,102 patents issued embracing an aggregate area of 1,394,130 acres, of which 3,873 were homesteads embracing an area of 1,289,004 acres.

PUBLIC UTILITIES

By John Bauer

Director of the American Public Utilities Bureau

PUBLIC INTEREST

Interest in public utilities has been increasing for many years, but has become especially widespread and tense during the past two years. This has included not only consumers of services, but also investors, managements, and especially public officials charged with responsibility of public protection and establishment of policy in dealing with utilities. The scope of interest is reflected in the efforts at rate reduction that have been made, in municipal investigations and activities, in new state regulatory legislation, activities and extension of Federal control, and in public ownership advancement.

EFFORTS AT RATE REDUCTION

Pressure for Adjustment.—The years of depression have centered attention upon utility rates which have remained extensively upon pre-1929 levels, although prices, wages, salaries and other money income of the great masses of people have shrunk greatly, between 40 and 50% as a rough general average. Inasmuch as utility services are mostly public necessities and enter particularly into everyday living costs, the continuance of high rates has been burdensome, and pressure for reduction has been exerted throughout the country. Practically every state commission with control over rates has been inundated with petitions for decreases, and many have undertaken investigations on their own initiative to bring about needed revision. In most states some reductions have been made, but practically in no instance has there been adjustment to correspond with lower price levels or with the shrinkage in purchasing power of the masses of people.

Lack of Administrative Standards.—During this period of exceptional effort to lower rates, the basic defects of the state commission system have become more clearly revealed not only to students of regulation but to its practical administrators and to responsible officials. The fact has come to stand out that important changes are necessary for reasonable protection of the public and for effective rate control. The vital fault has always been the lack of definite yardsticks or standards by which rate modifications can be made as a regular matter of administration. This has applied to increases as well as reductions. Whenever revision of rates has been desired, whether upward at the instance of a utility or downward at the demand of consumers, a special investigation has been necessary, with formal hearings and judicial taking of evidence, and with opposing parties. There has been emphasis upon technical procedure and upon expert evidence for the establishment of the so-called facts upon which decision is based. The result has been inevitably conflict of interest, protracted inquiry, and unsatisfactory rate orders.

Valuation Difficulties.—The difficulties have centered particularly upon the establishment of "fair value" of the properties used in public service upon which a "fair return" must be allowed. The determination of "fair value," or so-called rate base, has required physical appraisal at prevailing prices of materials and labor costs, together with ascertainment of the depreciation to be deducted, and with other more or less uncertain elements to be considered. Each factor has involved indefiniteness as to conception and uncertainty as to fact, with the consequence that dispute has always been generated between the interested parties. Special valuation experts have been developed, and they have been available particularly for the support of high valuations for the companies. While, of course, experts have been used also on the consumer side, they have been used much less extensively and have not been vigorously schooled for low valuations. Due to the uncertainties involved, the final decision has often, or usually, been unsatisfactory to both the public and private interests, and has led to further litigation in the courts.

Lack of Funds for Consumer Case.—Under these conditions the commissions have naturally avoided as far as possible the undertaking of rate cases. Furthermore, because of the technical requirements of proof by experts and the consequent costs that have been involved, the commissions, municipalities or other public representatives have usually not had sufficient funds to make proper preparation for the consumer side. Consequently, the result has mostly been a heavily one-sided record: the companies invariably have had well-trained experts in sufficient numbers to prepare and present their side completely, while the consumer side has mostly been skimped. Under these conditions, even if substantial reductions have been ordered, the companies have usually appealed to the courts and have won because of inadequate record on the part of the public: court action has taken extensively an anti-public slant. Rate control has gone largely by default through the unwieldiness, costliness and unsatisfactory results of the prevailing system. The commissions have avoided rate cases whenever they could and have undertaken investigations and hearings only when practically forced to do so by company or public insistence.

During recent years, however, the commissions have been compelled to undertake investigations notwithstanding the difficulties involved. At the same time they have been restricted in funds available for rate cases because of economy and tax reduction movements. They have struggled with the cumulative investigations the best they could and have striven for special adjustments and short-cuts so as to avoid lengthy and expensive hearings. They have attempted especially to bring about reductions through negotiation with the companies but have been handicapped in this effort because they have not had any real force for negotiation; the results have been decidedly meager in consequence.

Valuation Short Cuts.—As to valuation short-cuts, the commissions have resorted to investment or book figures, making adjustments for lower prices through use of index numbers or other devices for the establishment of a reasonable rate base, without getting involved in the details of physical appraisal. While this effort was promiseing, and in some instances produced moderately prompt results, its legal validity was always doubtful and apparently has been destroyed fully by the 6-3 decision of the Supreme Court in the so-called Baltimore telephone case decided in June, 1935. In this case, the issue was definitely whether ''fair value'' could be determined by modifying actual property costs or previous appraisals through application of price index numbers. This method has been used by the Maryland Commission and had produced a distinct reduction in the valuation claimed by the company, which promptly appealed to the Federal court and the issue was taken to the Supreme Court for decision. This has quite clearly forced the commissions back to physical appraisal and successive revaluations which have proved to be destructive of consistent and satisfactory rate administration.

The immediate job of the commissions has been made more difficult and complicated by the decision against use of index numbers or other methods through which short-cut adjustments of actual property investments or prior valuations can be made for rate base purposes. Attention, however, may be centered in simplifying and standardizing inventories, in computing production cost unit prices, and in determining depreciation to be deducted from cost new of the properties. In these matters, substantial improvements are attainable in valuation procedure, even if appraisal is necessary and, under present force of circumstances, they are likely to receive increasing attention by regulatory bodies and other public representatives responsible for reasonable rates, but, up to the present, appropriate revision of methods has not gone far and its probable success is conjectural.

Need for Basic Revision.—If state regulation of utilities owned and operated by private companies is to be continued as a matter of practical policy, the entire structure of regulation must be basically revised so that all important elements that enter into reasonable rates can be promptly determined as a matter of record and regular administration without requiring individual investigations with each attempt to revise rates. These elements are capable of reasonably exact determination if only suitable standards and methods of administration were adopted. Valuation policies could be modified so that the rate base would be taken from the accounts of the company without subsequent re-appraisal and without re-raising conflict of interest between the company and the public. Likewise operating costs and rate of return could be determined practically from the accounts and records. The establishment of such exact policy, however, requires fundamental revision of law and positive legislative action. No really important shift in rate-making policy and procedure seems now attainable under the recent Supreme Court decision except through change in system adopted as a comprehensive legislative program.

In New York the 1929 Legislative Committee which investigated the workings of public utility regulation agreed upon the fundamental defects and basic needs of revision in the system but disagreed as to the methods through which the change could best be effected. The Legislature, however, paid scant attention to either minority or majority recommendations and made mere incidental changes which proved to be almost entirely ineffectual. In 1934, the Legislature enacted some more makeshifts which also have accomplished little toward realization of effective regulation. In the meanwhile, however, a new Legislative Committee has once again investigated the operation of the system and is to report to the 1936 session. Whether it will go to the fundamentals of revision is uncertain, but that regulation can never be satisfactory from the public standpoint until it is based upon exact standards and administration can be firmly stated as a fact.

New Jersey and Other State Reductions.—Notwithstanding the difficulties of making rate adjustments, numerous reductions have been made throughout the country, partly through negotiations between the commissions and the companies, partly because of realization by the managements that rate concessions must practically be made, and partly through short-cut methods and formal orders by the commissions. One of the most noteworthy instances is that of the New Jersey Board of Public Utility Commissioners, which, after investigation and hearings continued for nearly two years, ordered a total reduction in electric rates that would save consumers annually about $5,176,000. In this instance, the case was prepared on behalf of the public on the basis of index number adjustments, and the order was rendered before the Supreme Court decision in the Baltimore case. While the Public Service Gas and Electric Company resisted the reduction, it has accepted it and has not carried the case to the courts. Commission orders reducing electric, gas and telephone rates that would aggregate substantial savings to consumers were also reported in other states. In some instances, however, the orders have been challenged in the courts.

CITY INVESTIGATIONS

The growing interest in utility conditions has been expressed also in the increased activity of cities in obtaining proper rate revision and other adjustments. In the actual preparation and presentation of data in rate cases, the cities have almost always participated and carried the principal burden in the instances where substantial efforts were made to prepare the public side. Usually the commissions have not had sufficient funds for thorough preparation, and in addition they have been in the somewhat inconsistent position of passing upon rates when at the same time they are attempting to represent the consumers and the public at large. This double responsibility, which combines judicial and representative functions, has been a difficult one and has contributed to the ineffectiveness of rate control.

During the depression, the financial position of municipalities has been rendered acute not only because of decline in tax revenues, but also because of additional burdens due to emergency relief. Under these conditions, little positive effort could be made to prepare and present the public side in rate cases. While complaints have been brought and appearances made before the commissions, actual preparation has been limited by financial pressure. At the very time when public representation was most necessary, city officials have been least able to carry out their responsibility.

As a practical matter, in the present system there has always been division of responsibility between the commissions and the cities. While the commissions under the statutes are supposed to represent the public and to make such investigations and determination of facts as are needed in the public interest, actually the responsibility of public representation has rested primarily upon the cities. While as a formal legal matter this responsibility may be and often is avoided, complaints against high rates and other unsatisfactory conditions come first upon the municipal officials. The actual service is a local function in which there is primarily municipal interest and inevitable responsibility. This fact has come to clearer realization in recent years, even though the municipalities have not been financially able to assume the responsibility in an effective manner.

Notwithstanding financial pressure and multiplication of duties placed upon municipal officials, there has been distinct increase during the past two years in direct municipal activity to obtain rate and other utility adjustments in line with basic municipal interest. This is illustrated, for example, by Pittsburgh, which has obtained thorough investigation of local mass transportation conditions for the purpose of establishing more satisfactory policy and administration for the future. Likewise Louisville has gone thoroughly into utility rates, and in the case of telephones has enacted an ordinance to reduce local exchange rates 25%. While the validity of this ordinance will be challenged by the Southern Bell Telephone and Telegraph Company, Inc., the local legislation has been carefully prepared and will be defended upon basic constitutional grounds. Boston has made a comprehensive utility survey and has proceeded particularly with detailed investigation of valuation and costs in connection with gas rates. All these activities clearly indicate greater recognition on the part of municipal officials of the underlying municipal responsibility and function in connection with satisfactory utility conditions and policies.

NEW STATE LEGISLATION

New York and New Jersey.—Along with the efforts to obtain utility rate reductions has been the enactment of new legislation in the various states for the purpose of simplifying and expediting regulation and to obtain prompt relief to consumers. The legislation has taken mostly the form of providing temporary rates, limiting the time used for investigation, and placing the cost of investigation upon the utilities to be included in the rates charged for service. The instances of providing for temporary rates have not proved particularly effective, due in part to the inadequacies of the statutes, in part to judicial limitations, and in part to the procedure adopted. In the case of New York, for example, the Commission has been restricted by judicial decision under which rates cannot be reduced by the limited consideration of book value. In the case of New Jersey, the statute was particularly defective in that the results depended upon agreement on the part of the companies, and such agreement would naturally not be forthcoming. The basic defect of such legislation is that it would deprive the companies of basic rights which would be safeguarded under full investigation. Unless the statutes clearly provide for full compensation so that real interests would not be sacrificed, the temporary rates might be confiscatory and therefore unconstitutional.

The Judicial Factor.—The conception of temporary rates hardly fits with present constitutional standards of rate control. Rates are determined by legislative action, subject to being reasonable and non-confiscatory. How can there be provisional or conditional legislation? The real difficulty is that the legislative action as entrusted to the commissions must be preceded by judicial hearings so that the very legislative enactment is simultaneously a judicial decision. Here is an hybrid which inevitably causes trouble if promptness is desired. Judicial action cannot be hurried, for all parties must have their day in court. Legislative action *per se* can be expedited. The way to effect prompt reduction, therefore, is to simplify rate procedure and to enable the commissions to act without the strangling processes of quasi-judicial action. Any temporary rate statute which does not cut through this restriction is almost certain to fail in producing relief or to run afoul of the courts.

Limitation of Investigation.—The second type of legislative action, which seeks to limit the length of investigations, contains similar defects in relation to judicial procedure. If a commission must act in judicial capacity and must give hearings in the judicial sense, it cannot at the same time be limited rigorously as to time and kind of evidence presented, especially where constitutional rights are involved. Its findings must be conclusive or there can be no judicial decision. If a time limitation is fixed by statute, there is obviously the constitutional difficulty of interfering with basic rights and duties. If, for example, a company does not have time to prepare its appraisal and to complete its testimony within the limited period, its rights manifestly cannot be foreclosed by a decision within the statutory period. Its constitutional rights to a fair return transcend all time restrictions that may be placed upon the commissions by the legislature. The same is true on the public side. If thorough investigation requires more than the statutory time, the public rights to reasonable rates can hardly be foreclosed by arbitrary limitations, especially if these were designed for the purpose of making the public rights effective.

Among the states providing for limited time is New Jersey, which during the past year fixed a limit of six months upon investigations. While this was doubtless calculated to assist the public to prompt relief, it ignores practical conditions under the present system and so disregards basic constitutional rights of both the companies and the public. Under the practical conditions of regulation, particularly as fixed by the requirement of physical appraisal and individual inquiry in each instance, a period of six months is far from adequate in the case of a large modern utility. The important electric case concluded within the year could not possibly have been prepared and presented on the part of the public within the six-month period. The same is true of any large modern utility. Whether the investigation involves a reduction or an increase in rates, the inventory of the properties, the establishment of individual unit prices, determination of depreciation and other factors involved for a complete rate determination, simply cannot be completed reasonably in six months under the prevailing system, without ignoring either public or private rights to reasonable rates.

What is sought to be accomplished by temporary rate orders and the time limitations upon investigations and decisions can be achieved only through fundamental revision of system so that the rights of the companies and the public are continuously determined under definite standards and with exact determination of facts through accounting and other operating and financial records. Where rate readjustment depends upon individual investigation as to valuation and other matters, there can hardly be any fixed limitation without invading public or private rights protected under the Constitution. If commissions are to act promptly and effectively they must be freed from judicial functions and must have available exact standards and machinery of rate administration.

FEDERAL CONTROL

Federal Power Commission.—Along with commission, municipal and state activities, there has been also increasing Federal action in utility matters. This includes the Federal Power Commission, the Communications Commission, the Federal Trade Commission, the Securities and Exchange Commission, and the new Rural Electrification Administration. During the past two years the Federal Power Commission made an extensive investigation of national power resources, including particularly the possibilities of hydro electric power development, along with flood control and other functions of conservation and improvement in national resources. It has also made a countrywide investigation of public utility rates charged both by private companies and by publicly owned plants. It has published the results of the studies in three principal groupings: first, comparative rates and bills for the more important cities of the entire country; second, the rates and bills for communities by states, and, third, the rates and financial policies of the municipally owned and operated plants. These reports have been made widely available and have furnished factual data for rate comparisons. While they can not be used directly as the basis of rate revision, they have brought out great differences and will doubtless lead to inquiry as to justification. The Federal Power Commission has no general rate-making power except in connection with hydro electric developments under its jurisdiction. Its powers and functions are interstate, while mostly the fixing of rates involves intra-state factors. Its investigations, however, will assist state commissions, municipalities and others in the consideration of rates and in the establishment of proper standards throughout the country.

The Federal Trade Commission has continued its investigation of utility practices and organization. During the past year it has published summary reports of intercorporate relations and the economic and public phases of the different utility systems. The most significant report is 72-A, which furnishes basic factual data with regard to electric and gas companies throughout the country.

The Communications Commission has general jurisdiction over telephones and telegraphs which enter into interstate commerce. Congress has made an appropriation of $750,000 for a comprehensive investigation of the telephone industry. This has been started under the special responsibility of Commissioner Paul Walker, who has organized the requisite legal and technical staff to bring together the various facts with which the investigation is concerned. The inquiry relates particularly to the American Telephone and Telegraph Company which, with its subsidiaries, largely dominates the telephone business throughout the country. It will be concerned primarily with the intercorporate relationships, their different functions, their financial structure, investments, operating costs, and especially the intercorporate charges and payments which are involved in the fixing of telephone rates.

The Communications Commission has jurisdiction only over interstate aspects of the telephone business. It can fix rates only for interstate messages, while mostly the exchange telephone rates are left to the jurisdiction of the state commissions. Consequently, the great bulk of the data produced by the investigation will be merely informative, but it will be available for commissions, municipalities and individuals interested in telephone organization, finance and rates. The facts disclosed will furnish leads to states and communities in obtaining revision of local telephone rates. In fixing state telephone rates or local exchange rates, the proceeding must come before the appropriate state commission, which must make its own record for the purpose of a rate order. Hence, findings by the Federal commission with respect to valuation and operating costs are not directly available for state regulatory purposes, but can be used to indicate what facts are available for the local purpose. State jurisdiction and procedure in fixing intrastate telephone rates have not been changed by the Federal jurisdiction and its investigation and findings of fact.

Rural Electrification Administration.—An important extension of Federal activity has been the creation of the Rural Electrification Administration. This was provided for by congressional action, and is a part of the Emergency Relief Appropriation Act of 1935 under which Congress provided that $100,000,000 might be spent for rural electrification. The Rural Electrification Administration was established in May, with Morris L. Cooke as Administrator. While the general objective has been to furnish emergency relief work, the particular purpose is to facilitate and extend rural electrification in accordance with broad agricultural policies and needs for advancement in general rural economy.

According to public statements of the Rural Electrification Administration, only 10.9% of all farms in the United States were connected with central electric stations at the end of 1934. The percentage varies from 0.9% in Mississippi to 53.9% in California. Though the nation has always been one of the leading countries in the field of electricity, it is a ''backward'' country in the development of rural electrification compared with foreign countries. Through systematic policy in France and Germany almost 90% of all rural communities have been provided with electricity.

The program of the Administration is to assist both public and private agencies in the extension of rural electric lines, to provide facilities at minimum cost, and to establish lowest rates that are practically attainable on a financially self-sustaining basis. Normally, loans are approved at an interest rate of 3%, to be amortized within 20 years, provided that no less than 25% of the loan is expended for labor, with preference in employment of workers from public relief rolls. New standards of line construction have been formulated so as to keep basic costs as low as possible. An important development has been to extend the operations of the Electric Home and Farm Authority to the entire nation so that equipment and appliances can be readily obtained on the farms at low cost and with suitable financial arrangements for payment.

While not enough time has elapsed for the showing of results, the Administration has contacted public and private organizations through which comprehensive programs of rural electrification can be developed. Early in November, 1935, eleven projects to serve over 8,200 customers had been approved. Over 2,000 miles of new rural lines will be constructed under these contracts. In addition, however, the REA has stimulated construction by existing utilities, and the prospect is that 1936 construction will exceed all records made in the most prosperous years of the industry.

HOLDING COMPANY CONTROL BILL

Objectives.—The development which has caused most extensive discussion and agitation is the Holding Company Control Bill enacted by Congress during 1935. The general objective of the bill is to restrict the existing ramification of holding companies and their affiliates, to bring about better coordination of properties under the same control, and to place the interstate systems under Federal regulation. The Act makes unlawful the pyramiding and tiers of holding companies that now exist. It permits, first, a holding company of a group of operating companies, and, second, a holding company of a series of first order holding companies, but prevents further succession of control. Its object, moreover, is to eliminate control by the same organization of widely disconnected properties with respect to which there can be no real economy and public advantage.

Administration.—The administration of the Act is placed primarily in the Securities and Exchange Commission. All utility holding companies are required to file their securities with the Securities and Exchange Commission and must obtain future approval of securities issued. The enactment was bitterly opposed by utility interests and their affiliated banking and legal connections. While substantial modifications were made in the bill as originally introduced, its vital significance remains. If its legality is sustained, and if it is administered in accordance with the purposes and ideals of its sponsors, it will doubtless bring about great improvements in organization, greater efficiency and economy of operation, together with lower rates to consumers and greater stability and security of return to investors.

Validity of the Act.—Since its enactment, the constitutionality of the Act has been attacked and wide opposition has developed. As this article is being written, the large utility groups have mostly announced their decision not to comply with the Act and so to bring the test of constitutionality before the courts. In the meanwhile, however, through a case in which the government was not a party, a Federal district court decision has been obtained that the Act is unconstitutional in so many points which are interrelated that the entire Act must be considered as invalid. This case will probably be appealed, but doubtless the validity of the Act will be brought before the courts on direct opposition of large companies which refuse to submit to the regulation provided.

Opposition to the law appears to involve exaggerations and misconceptions as to results. Naturally, the companies do not like future restrictions upon their freedom of action and they fret over the up-setting of the devices which had been spread over the entire country to escape regulation, especially in matters of financing and the larger activities of management. But the irresponsible freedom of the pre-1929 era had essentially passed anyway, and their activities had come more largely under state scrutiny. Furthermore, if regulatory history shows anything of the future, they have no great cause to fear Federal control. That they are instrumentalities of interstate commerce and properly come within the scope of Federal regulation, there seems to be practically no doubt. That there may be confiscation or invasion of constitutional rights seems rather improbable.

Purposes of the Act.—While the legislative purpose is to break up systems which are unwieldy both as to corporate structure and territorial location, such break-up involves no intended loss to investors and affects no basic rights as to obtaining fair returns. There may be re-shift of properties from one system to another, but the adjustment will necessarily be on the basis of relative equity and basic advantages of the transferred properties. The elimination of excessive corporate and financial complications is likely to result in economy and in ultimate advantage to the utilities from the standpoint of potential earnings.

The reshifting will necessarily take considerable time, and the rather extreme pointing of the law will probably be materially blunted in the process of administration.

So far as fundamental rights to returns are concerned, the Act can have practically no significance. Inasmuch as the properties are actually used primarily in intra-state operation and service, Federal regulation will not include the fixing of rates. This function will continue to remain with the state commissions, which will still be subject to the same procedure as to valuation and determination of other matters upon which reasonable rates are based. So far as consumers are concerned, there will be little direct benefit through rate reductions.

From the government standpoint there is apparently misconception as to what may be accomplished in the public interest. Indirectly, there may be influences to bring down rates, but they are not likely to be very potent because of the intra-state function of rate-making. The chief objective was probably the protection of investors so as to prevent the sort of imposition and exploitation that prevailed prior to 1929. The re-grouping of systems may result in operating and financial economies which may ultimately be transmitted to the public in lower rates, but this will take considerable time and will finally depend upon the state commissions rather than Federal bodies. Furthermore, whether the Act will actually result in extensive and desirable property re-groupings upon proper and economical basis may, perhaps, be doubted, because of complications and unwieldiness of procedure that will be encountered and industriously compounded as the actual processes of administration are carried out.

Investment Aspect.—Opposition to the Act is sponsored by the controlling financial groups, but it has been presented primarily as in the interest of public utility investors in general. While doubtless the holders of public utility securities have been aligned with the opposition, there is probably little sound reason for such joining of actual investors with the promoters and the greatly centralized control of the systems. This rests finally with the large banking interests which are concerned primarily with financial operations, and not with long-run development of the properties for the continuous support and safeguarding of actual investors. The latter were badly duped before 1929. They have much to gain from reasonable public control which prevents distortions of organization and finance and which is designed to protect real investors against irresponsible financial interests. The object is to avoid such future exploitation as has characterized the utility industry in the past. The best that may be hoped for investors is that the object will be substantially realized.

PUBLIC OWNERSHIP PROJECTS

Slow Progress.—The general idea of public ownership and operation has advanced along with other utility developments, at least from the standpoint of discussion and agitation. Actually, however, no great progress has been made in establishment of new plants. The achievements up to date and the clear prospects for the next two or three years have fallen distinctly below expectations of a few years ago. While many individual public ownership projects have been proposed and even launched, few have been realized; mostly they have remained in the discussion stage or have been blocked by legal, technical or financial difficulties.

Plant Duplication Problems.—The chief trouble that has been encountered is the fact that every community in which a publicly owned plant might be successfully established is already provided with electric facilities or other utility services. The result is that every public project meets the alternative of purchasing the existing properties or duplicating the capital investment. If duplication is to be avoided, the existing properties must be purchased, and then there is the grave task of agreeing to a purchase price or obtaining possession through legal process of condemnation; in either case the cost is likely to detract from the enthusiasm of the sponsors. If duplication is attempted, then the course mostly involves competition with the private company, so that the earnings of the new plant will be limited to what can be attracted from the existing system. Under such circumstances the prospective revenues will not be sufficient to support the required investment, at least not for a number of years, and the project cannot be financed except as a burden upon the general credit of the municipality. Federal assistance to municipal financing has been mostly predicated upon the doctrine of self-liquidation, and the proposals mostly fail to make adequate showing as required; hence government aid has languished and little actual advancement has been made.

The Camden Project.—Some notable instances of important municipal projects have been stopped, at least temporarily, because there had not been appropriate planning to meet the legal and financial requirements as fixed by existing law. This applies, for example, to the city of Camden, N. J., which in 1934 voted overwhelmingly for the establishment of a municipal plant. The project has been blocked in the courts because underlying legal provisions had not been complied with. Apparently the city will start *de novo* in formulating a plan of municipal plant. While the state laws are antiquated and should be revised, there is nothing to be gained by proceeding contrary to law and so wasting all the energy which leads only to defeat.

New York Plan Failure.—The most noted instance of a municipal plant undertaking in 1935 was that of New York City. After considerable public discussion, a local law was enacted which provided for a maximum appropriation of $49,500,000 for the construction and establishment of a municipal electric plant for the furnishing of general public service. It was to be organized as a self-sustaining unit under a separate agency owned by the city. It was to be supported entirely through rates charged for service, and was not to depend either as to original financing or subsequent developments and operation upon the general city credit. Its final adoption depended upon referendum vote to be taken at the 1935 regular election.

Before the plan could be brought to popular vote, a petition was filed before the state supreme court for an injunction on the ground that it violated the legal requirements for adoption. The injunction was granted on two principal points. First, no bonds can be issued under the laws of the state except on city credit, so that limiting the plant financing to its own operations would be outright violation of law. Second, any such proposition to be submitted to popular vote must state in detail the plan of financing, but the actual provisions as proposed made only general reference to financing and made no detailed statement of terms. The order was carried promptly to the highest court in the state and was sustained.

Apart from the legal points in the New York plan, there was also the financial or economic difficulty that it involved capital duplication and practically imposed competition upon the new agency. Under actual conditions in New York, there would be little possibility of making the municipal plant self-sustaining competitively for several years. Consequently, even if the plan had not fallen by the way on legal grounds, it could not have been financed as an independent proposition. For this purpose, quite conclusive showing would be necessary as to adequate earnings to induce bankers to accept the bonds of the new authority, or even to get Federal funds for consideration. The project, therefore, was basically unsound as to law, technical conditions and financial requirements.

The trouble in New York and mostly throughout the country has been lack of careful survey of what can and should properly be done. Successful institution of public ownership requires adequate regard for underlying realities. Spasmodic and haphazard undertakings serve to impede or defeat public ownership. Friends of the movement should insist on intelligent planning and rationality of procedure. Any other course is inimical, a boomerang to public ownership. No so-called municipal yardstick can succeed when it is predicated upon clear illegality and ill-considered economic and financial provisions.

WATER SUPPLY

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FEDERAL GRANTS FOR WATER WORKS

On Nov. 1, 1934, the Federal Emergency Administration had allotted $93,675,220 for Water Works, Federal and non-Federal. For the period ended Nov. 3, 1935, these allotments in the NIRA program were as shown in the following table compiled by the Division of Economics and Statistics. In many cases grants have been allotted at the requests of municipal officers, only to be rejected later by the votes of municipal legislative bodies.

Type	Non-Federal			Federal		Total	
	No. of Projects	Allotment	Estimated Cost	No. of Projects	Allotment	No. of Projects	Allotment
Water Mains.........	133	$11,089,978	$20,263,894	28	$315,929	161	$11,405,907
Filtration Plants......	33	5,953,360	7,661,598	2	343,497	35	6,296,857
Reservoirs............	77	8,983,750	12,500,045	12	123,362	89	9,107,112
Complete Waterworks .	719	52,745,423	70,709,388	57	716,066	776	53,461,489
Total............	962	$78,772,511	$111,134,925	99	$1,498,854	1,061	$80,271,365

In addition to the above there have been allotments under the FERA program for 1935 as shown in the following table:

ALLOTMENTS APPROVED AS PWA NON-FEDERAL PROJECTS

Type	No. of Projects	Grants, from FERA 1935 Appropriation	Loans, from Deficiency Revolving Fund	Allotment	Estimated Cost
Water Mains...........	51	$ 2,592,846	$ 708,100	$ 3,300,946	$ 5,763,789
Filtration Plants.......	25	1,128,116	701,000	1,829,116	2,477,613
Reservoirs............	43	8,274,809	5,761,300	14,036,109	19,085,823
Complete Waterworks...	448	19,505,746	8,945,940	28,451,686	43,436,006
Total.............	567	$31,501,517	$16,116,340	$47,617,857	$70,763,231

The allotments shown above include those non-Federal projects which are under the supervision of the PWA in the new works program.

For comparison, the contracts awarded for water works construction, as reported by the *Engineering News-Record,* amounted to $99,437,000. in 1928, and to $48,617,000. in 1929. In 1934 they amounted to $92,495,000., in 1935 to $80,677,000., including projects aided by the Federal Administration.

It would seem, therefore, that even under abnormal conditions there has been little or no over-building, which the large Federal grants might indicate. While these grants have been made, their materialization as contracts awarded is extended over a relatively long period by administrative delays and annulled by rejections by many thrifty towns and by others who wish to divorce welfare work and construction. Consequently statistical comparisons are difficult.

NATIONAL WATER RESOURCES

In the Delaware River case the late Associate Justice Holmes of the U. S. Supreme Court opined that "A river is more than an amenity; it is a treasure. It offers a necessity of life among those who have power over it." This conception of the principal water resource has doubtless affected the recent Report of the Water Planning Committee, Morris L. Cooke, chairman. This Committee is a part of the National Resources Board. Water resources, like soil, or mineral resources, must be conserved lest the nation suffer. Of these the Supreme Court has held that water supply needs are paramount. However, there are many conflicting demands,—for water supply, irrigation, fisheries, sewage disposal, power and navigation. Furthermore, many problems are interstate.

This report presents for the first time a general statement of the existing information regarding water resources, surface and ground, and regarding rainfall, runoff, evaporation and water quality. It stresses the necessity for the better coordination of the many demands and because of many of the problems are interstate the necessity for national planning.

While national planning and data gathering are highly desirable, it would seem to the writer unfortunate, for the initiative and morale of state and local authorities, were all water resources placed under Federal control. This might even lead to bureaucratic socializing of the engineering profession, as portentous a plan as the incorporation of family physicians. At this writing there seems to be no interstate problem which might not be settled by agreement among the states or in case of failure by appeal to the Supreme Court.

Following the European example, many authorities are favoring legislation which will permit the formation of River Districts, each governed by a board composed of representatives of the state, municipalities, industries, agriculture, fisheries, etc. In Europe these boards harmonize the various conflicting interests, conserve and allot the uses of the streams they control. Notable examples in Europe are the Ruhr District in Germany and the West Riding, Irwell and Mersey Districts in England.

NEW WATER WORKS

Boston.—In Massachusetts, Chief Engineer Frank E. Winsor reports that work on the 420,000,000,000-gallon Quabbin reservoir for the supply of Metropolitan Boston is progressing rapidly. The 25-mile tunnel is completed and awaits the filling of the reservoir for use. At the dike, following the completion of core wall and impervious fill, the placing of 2,500,000 yards of earth-work is progressing efficiently and speedily. At the main dam the concrete core wall of the sectional-caisson type approaches completion, while work on the impervious fill which comes next to it will begin shortly.

Hartford, Conn.—The Metropolitan District is making the third enlargement of its water sources in 83 years. By progressive development of the Farmington River, a supply for at least 75 years more will be obtained. The new Bills Brook Dam, 155 ft. high and costing $2,000,000.00, is now under construction. This will form the Barkhalmstead Reservoir whose watershed extends into Massachusetts. The reservoir will discharge into the present works and would then provide for a population of 755,000 for an ultimate additional cost of $8,600,000.00.

Denver, having exhausted all available new sources in the Catchment area of the South Platte River, is now to divert the waters of the Frazer River on the Pacific slope through the Moffat Tunnel, thence down South Boulder Creek and by an aqueduct into the present sources. Interesting is the exchange of this water for water rights of an up-stream irrigation district on the South Platte River. The annual diversion will be 717,790,000,000 gallons. The present expenditure under the lease agreement with the PWA will be $3,500,000. To finance the whole project will require $8,000,000.

Salt Lake City.—As a result of the drouth, Salt Lake City was faced with a water famine. This emergency was relieved by the construction of 17 new artesian wells at a cost of $250,000, following a 2-year investigation of the ground waters of the Jordan Valley. Because the new works will affect existing artesian wells and private well owners must be protected, the Utah Legislature has placed all water within the State under the control of the State Engineer.

Los Angeles.—The Colorado River aqueduct from the Parker Reservoir, Metropolitan Los Angeles, is proceeding with unexpected rapidity towards its expected completion in 1938. In this aqueduct, designed to supply 1000 M.G.D., are 91 miles of tunnels and 150 valley crossings.

San Francisco.—For San Francisco, the Hetch-Hetchy Dam is to be raised for additional storage as originally planned. This dam is on one of the two reservoirs which furnish water through the new Coast Range Tunnel 25.2 miles long, the longest yet driven.

WATER PURIFICATION PLANTS

Chicago.—After many years of consideration and important investigations, Chicago is to build three purification plants on the lake front, and to make this plan feasible and economical is to reduce waste by metering. A bond issue of $63,000,000. is called for. The Chicago works has faced a decade of difficulties which include potential water shortage, hazards to health and a supply of unsatisfactory character. There will be three plants, having ultimate capacities of 326, 720 and 640 mgd. respectively, to cost $46,500,000. The estimated cost of metering is $11,500,000. The South District Works will be the first constructed at a cost of nearly $20,000,000., including meters. Thus Chicago will be in line with many other Lake Cities, including Hamilton, Ont., with its new works and nearby Whiting, East Chicago, Michigan City and Hammond, so recently studied by Hansen.

New Filtration Methods.—While Federal financing has stimulated the construction of numerous plants,—like those at Beverly-Salem, Mass., Aberdeen, S. D., and Lewiston, Id.,—many of these have been authorized too late to have been described in 1935. Most of these plants embody improved methods of treatment of water prior to filtration, and, while most of the larger plants employ rapid filters with improved methods of sand washing, some of the smaller ones, especially in the East, adhere to the older English filter for convenience of operation.

For the removal of odor from surface waters, chlorination and carbon treatment before filtration and the application of chlorine and ammonia to the filter effluent constitute the most effective practice in the majority of cases. In some places crushed, screened anthracite is being used in place of sand for water filters. Its use is often advantageous.

Removal of Iron and Manganese.—For freeing water from iron and manganese, the long used method of aeration and filtration, assisted at times by chemical oxidation, still suffices in most cases. These objectionable constituents are also readily removed when waters are softened by the lime-soda process, as in the new plants at Springfield, Ill. and Hamilton, O. The use of manganese ore,—pyrolusite,—as a catalyst for the oxidation of manganese, heralded abroad and reported as a success at Brainerd, Minn., was found at Lincoln, Neb., to act no better, except in the beginning, than coke or gravel when brought into contact with the water.

ECONOMICS OF WATER SOFTENING

The economics of water softening are being given more attention, as the savings of soap and in the operation of steam boilers are realized. In about one third of the area of the United States the natural waters are too hard for economical use. However, Beard and White have made a valuable study of the economics of water softening for several California cities where in most of them the high per capita consumption and only moderately high hardness makes water softening economically questionable. Only a fraction of the population of this area is now supplied with softened water.

While the older lime-soda process, which reduces but does not remove the hardness, is still employed, the zeolite process, which by chemical exchange completely softens the water, is gaining in favor. Sometimes it is used in combination with the older process. There are some recent installations in the Middle West. It has been found at South Orange, N. J., and elsewhere that certain waters containing carbon dioxide must be treated by aeration or neutralization to prevent their destructive action upon the zeolite.

DISINFECTION

The practice of water disinfection is increasing even in areas like New England where in the past chief reliance has been placed upon storage. Chlorine, either alone or in combination with ammonia, is the agent most commonly employed, although ozone and ultra violet rays are used for small supplies.

At Chicago, the Dunn crib of the Chicago water works is the largest chlorine-ammonia plant ever established and placed in service. This plant is of original design and has a capacity of 3,500 lbs. of chlorine per diem. It includes devices for feeding smaller amounts of ammonia. Similar but smaller applicators will be installed at the 68th Street crib.

The ''Katadyn'' process, employing electrolytic silver as a disinfectant, is newest and is highly efficient when used with clear waters, or those which will not form deposits on the silver electrodes in contact with the water. It is more costly than chlorine but imparts no disagreeable taste to the treated water.

PROBLEMS OF WATER SHORTAGE

The drouth of 1934, which caused the failure of many surface supplies in the Middle West, has stimulated the introduction of ground water supplies. With these will come the problem of softening, also a more scientific study of water supply with a view of meeting similar emergencies in the future.

In spite of the hardships brought about by the drouth, especially where inadequate storage had been provided, studies have shown that, excepting in the valley of the Red River-of-the-North and in the southwest Pennsylvania and Permian areas, adequate surface supplies are generally possible, with good engineering.

The drouth also emphasized the problem of pollution by acid mine wastes, one of pressing importance in the coal regions of the Upper Ohio Valley. This acid waste not only makes water purification difficult and costly but harms the streams and the structures which come in contact with their waters. Through the efforts of four State Health Departments great improvement has been made by tightly ceiling unused and abandoned mines, thus preventing the production of acid by the oxidation of sulphur compounds by the oxygen of the air. This work, while costly, is vital.

The safety of roadside and camp water supplies is becoming a matter of increasing importance and several states by careful supervision have greatly minimized the number of unsatisfactory supplies.

STANDARDS OF APPEARANCE

In spite of the depression, the public continues to demand drinking water of increasingly improved appearance. More reservoirs are being treated with copper to prevent tastes and odors due to growths of microscopic plants, while the use of activated carbon in hundreds of cases, to remove odors and tastes by absorption, indicates the popular trend.

Many waters attack iron pipes causing ''red water'' troubles. These conditions are tolerated less and less, leading to treatment of the water with alkalies, to reduce their corrosiveness, or the use of cement and bituminous linings and of pipes of asphalt for water mains and of noncorrosive metals for small mains and services.

As a whole the year has shown a material advance in the art of water supply. Perhaps the only drawback has been the emphasis placed upon employment, rather than upon quality of construction, in work under Federal auspices, a condition which has resulted in protests from Water Works Associations and others responsible for the health and safety of communities supplied.

STREET AND HIGHWAY TRAFFIC

BY ERNEST P. GOODRICH

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AUTOMOBILE REGISTRATION

Automobile registration increased progressively every year through 1930, when it totaled 26,545,281. It then fell year by year to 1933 when it reached a low of 23,843,591. In 1934 it increased again by about 1,000,000. In 1935 it increased 4.3 per cent. It was reported that over 280,000 motor vehicles are owned and operated by the several states.

ACCIDENTS AND FATALITIES

Detailed analyses of motor vehicle accidents and fatalities were continued by insurance companies, the National Safety Council, and other interested bodies. During the ten years from 1925 to 1934 the death rates per 1,000 vehicles registered increased almost uniformly from 1.10 to 1.43. While theories and method continue to evolve, the old commandment still stands—better thoroughfares, wide, even surfaces plainly marked, with proper signals properly placed, night lighted, with steady-flowing traffic controlled by the weaving motor cycle policeman who can get through the traffic sieve.

It is estimated that the total number of fatalities during 1935 will aggregate 36,400, comparing with 36,101 in 1934. The death rate per 100,000 stood at 28.5. The total number of disabling accidents will probably reach 1,250,000. The estimated cost including wage loss, medical expenses, overhead, insurance, and property damage will probably exceed $1,500,000,000.

The skidding of vehicles accounts for about five per cent of motor accidents which resulted in nearly 2,000 deaths and 45,000 accidents in one recent year. Many investigations and reports were presented at various professional meetings with reference to the production of non-skid pavement surfaces.

Providence, R. I. with a rate of seven fatalities per 100,000 was the safest city in its class. In New York City the motor deaths were 72 less than in the previous year bringing the total down to 954 or not quite three per day on the average. Rural fatalities were nearly twice those in urban areas. In New York City, automobile accidents decreased by 7.653 during the year, to 29,905. 1,032 persons were killed and 35,332 hurt being reductions of 65 and 9212 below those of the previous year respectively.

SPEED AND SAFETY RELATIONSHIP

The question of the relationship between speed and safety received extended investigation and discussion before professional bodies. Several states and cities stringently reduced maximum speed limits, and New Jersey proposed physically to shift long stretches of concrete pavement so as to separate the traffic flowing in opposite directions.

Accident repeaters were singled out in an investigation made in connection with the Nassau County (N. Y.) traffic survey. Three hundred and forty-one out of 145,000 registered were involved in 719 accidents. In other words, 1/50 of 1 per cent of drivers and car operators are responsible for 10 per cent of the accidents.

REDUCING HIGHWAY HAZARDS

Rural Sidewalks.—The increasing of safety on the highways to both pedestrians and drivers was carried out in Massachusetts and in White

Plains, N. Y. by the building of sidewalks adjacent to highways on an extended scale. The Massachusetts program totals 500 miles of sidewalk along the 1,852 miles of state roads. The plans call for the use of bituminous material bordered with concrete or granite curbing. The work is estimated to cost about $4,000,000. Other methods of reducing rural highway hazards were presented by a special committee before the National Safety Congress. These included better signs, regulation of speed, proper illumination, highway widening, and billboards elimination.

Central Strips.—Two States,—Indiana and New Jersey,—adopted the principle of installing a central strip in four-lane highways to reduce the observed high accident hazard on heavy traveled roadways of that width.

Street Lighting.—Evanston, Ill. analyzed the problem of street lighting in its relation to night accidents before and after the installation of a new street lighting system. Night fatalities were reduced nearly 25 per cent, and all night accidents nearly 20 per cent.

Night Traffic Problem.—A report with reference to New Jersey traffic states that 44 per cent of the total accidents and 55 per cent of the fatalities occur at night and night traffic is only about 20 per cent of that for 24 hours. Daylight traffic must be four times as dense as that of night in order to make the hazards comparable. Because of the high cost of complete thoroughfare lighting, vehicles must continue to carry their own illumination but the need of something better than that at present in use is considered to be obvious. The relation of fatigue to auto accidents was made the subject of scientific observations by one of the large automobile manufacturers.

Bill Boards.—The Supreme Court of Massachusetts sustained the billboard law after nearly five years of testimony and consideration, stressing the effect of bill-boards on drivers, that they cause inattention, which in turn causes accidents. The New York State Conservation Law Amendment, which prohibits any advertising sign within 500 ft. of a state park or parkway except under written permit, was voluntarily followed in the Long Island region by outdoor advertising companies and a few real estate organizations.

Broadcasting Traffic Trials.—Efforts in the direction of public safety education included the broadcasting of traffic trials in Indianapolis. This is reported to have reduced fatalities below those of any other city of its class in the United States and to have reduced the accidents of the drivers of one large corporation by 50 per cent.

The Passing Hazard.—Publicity was given to the fact that the greatest of accident hazards exists in the operation (even at low speeds) of the millions of automobiles as they pass each other on public highways, when a second's inattention or carelessness, or the turning of the front wheels a fraction of a degree at the wrong time and place may result in a death. This condition exists billions of times each year.

INVESTIGATION AND LEGISLATION

The Drink Problem.—The question of the drunken driver received continued investigation, especially to determine when a driver is drunk in such a conclusive manner that the courts will convict. It was reported that a 45 per cent increase had taken place in accidents in which either the driver or the victim ''had been drinking.'' A comparative study of 1933 and 1934 accident reports from 12 states and 33 large cities covering a total population of more than 60,000,000 indicated that between five and ten per cent of the pedestrians and drivers involved in fatal accidents were under the influence of liquor or had been drinking.

Connecticut Enactments.—In Connecticut, new legislation was enacted designed to increase protection of life and property. It included uniform traffic control, repression of reckless driving and speeding, inspection of motor vehicles, registration of junk cars, the licensing of automobile associations, emergency lighting facilities and lesser registration fees.

Municipal Traffic Practice.—An outline of Standard Municipal Traffic Practice, of special interest in cities under 100,000 population, formed a report rendered by the Highway Research Board's Sub-Committee on traffic regulations in municipalities. It discussed sign shapes, colors, symbols, lettering, route markings, detour signs, mounting, lighting and materials, and in connection with signals, the amount of traffic volume which made them advantageous, the amount of pedestrian movement, accidents, and the local physical conditions, the effect of signals on accidents, speed and law observance and discussed matters of cycle length, the use of the amber light, the use of unusual signals and the importance of simplicity.

TRAFFIC AIDS AND INSTRUCTION

Surveys.—The Federal Emergency Relief Administration issued a traffic survey manual which contained detailed descriptions of how to proceed, together with numerous forms and diagrams designed to provide information for the traffic engineer and the traffic police chief. Many relief workers were used on traffic projects under the direction of a corps of well known traffic experts. Many observations were made of the percentage of obedience to stop signs at intersections, and in several cities police activity was increased to secure better observance.

Public education was advanced by the greater New York Safety Conference before which a number of experts appeared and which was widely publicized. New Jersey held its first state-wide safety conference. Several municipalities instituted traffic schools for their police forces and, in some instances, for convicted drivers. Northwestern University held its third traffic officers training school. New York and Chicago instituted courses in automobile driving in their high schools. More efficient taxicab regulation was discussed in the official magazine of the City Management Association. One large corporation employing 1,200 drivers operated its own private traffic court.

Pedestrian Tunnels.—In Los Angeles, where many pedestrian tunnels have been constructed primarily for school children, it was found that they were used by about 90 per cent of such children, but that adults made use of them to an average of only about 15 per cent.

Parking problems received continuous study. They were discussed by the Highway Research Board's Sub-Committee on Traffic Regulations in Municipalities and were interestingly exemplified by the installation of parking meters in Oklahoma City.

Through Traffic Parkways and Roads.—Advantage was taken of the possibility of securing Federal funds for the starting of new through-traffic parkways and roads. These included an extension in New York City of Riverside Drive to connect with the Sawmill River Parkway via the new Hendrik Hudson Parkway.

TRAFFIC VOLUME

A survey by the California State Division of Highways disclosed the fact that the combined Sunday and Monday traffic averaged over 30 per cent of that of a typical week. July traffic on main city streets was found to exceed that of January by only one per cent.

The Washington State Highway Department investigated the question of the effect of truck speeds, and concluded that the slow-moving vehicles cause an annual time loss for motorists of $71,000,000 on the 154-mile stretch between Tacoma and Vancouver.

The U. S. Bureau of Public Roads maintains the 30-mile section which passes over Berthoud Pass in Colorado where the snow falls range from 300 to 600 inches annually, varying from one to 96 inches per storm. Traffic counts have shown 53,000 motor vehicles using the pass during the eight month period when snow would close the highway unless it were removed. The estimated gas tax revenue from this traffic is stated at approximately $25,000, while the annual cost of snow removal does not exceed $15,000.

The density of traffic during the first 24 hours after the new suspension bridge across the Mississippi opposite

Moline, Ill. was opened, indicated that there would probably be no difficulty in obtaining revenue for the retirement of the bridge bonds.

MISCELLANEOUS

The Utah State Road Commission devised a new machine capable of painting 15 miles of traffic stripes per day.

The average motor vehicle in California last year consumed 601 gallons of gasoline. This was 68 gallons more per car than was consumed 10 years previously. Passenger cars averaged 15.2 miles per gallon while trucks averaged 10.64.

Numerous studies were made of methods to prevent skidding on icy pavements by the use of grit and chemicals and how best to spread and maintain the material.

Certain studies were made of the effect of state gasoline taxation on traffic and transportation, showing its restrictive tendency.

The steady-flow principle of traffic designing was favorably appraised in one prominent magazine by a considerable group of traffic experts, and its use seems to be growing.

A traffic marker newly placed on the market consists of reflectors so placed that they catch the light of approaching headlights so that a center line formed by these markers resembles a line of electric lights along the pavement.

The Institute of Traffic Engineers continued to grow in size and effectiveness. In a symposium, 10 recognized experts answered the query, "How Accidents Can Be Reduced." All mentioned rigid, intelligent, and sustained enforcement by police and courts. Eight recommended a traffic engineering bureau in larger communities and the part time employment of traffic experts and of surveys in smaller ones. Continuous organized public education was advocated by seven, while five stressed the importance of obtaining, recording, and using complete accident statistics and the need of uniformity of ordinances.

A scholarly paper was presented to the National Academy of Sciences on "How Cars Go Out of Control: Analysis of the Driver's Reflexes." Under certain conditions these automatic reflexes lead drivers to press the accelerator instead of the brake, thereby creating a condition technically known as "car out of control". Analysis of Connecticut records for the year 1934 lead to the conclusion that about ten per cent of all serious automobile accidents may be attributed to this cause. A suggestion was submitted for a modification of the design of the pedal system so that the automatic reflex would stop the car instead of accelerating it.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Water Works Assn., 29 W. 39th Street, New York City.

International Assn. of Fire Chiefs, Police Headquarters, Philadelphia.

National Electric Light Assn., 420 Lexington Ave., New York City.

National Parks Assn., 1512 H St., N. W., Washington, D. C.

National Public Service Corporation, 57 William Street, New York City.

Park Assn. of New York City, Inc., 122 E. 22nd St., New York City.

DIVISION IX

DEFENSE AND ARMAMENT

THE UNITED STATES ARMY

By Robert S. Thomas

Chief Clerk, Historical Section, Army War College

PLANS AND PROJECTS

From a military standpoint, the year 1935 was an outstanding one; not by reason of any particularly brilliant feat of arms, for the United States was at peace, but because it brought forth definite, constructive action on plans and projects which had been, in some instances, ten years in the making. To understand what came about in the past year, it is necessary to consider army legislation passed in 1920. In that year the system of organization perfected under the National Defense Act was defined. Prior to its conception, there were but two methods known to the world upon which to base military organizations: (1) conscription, or (2) the employment of professional soldiers. The first method is contrary to our national sentiments and traditions; the second is too costly. The plan of the National Defense Act, based upon voluntary enlistment, is a workable compromise from the standpoints of efficiency and economy. There is provided a small Regular Army and there is further provision for the organization and partial development of a National Guard and an Organized Reserve. Three other organizations, in no sense part of the Army of the United States, train other volunteers; they are the Reserve Officers' Training Corps, the Citizens' Military Training Camps, and the National Rifle Association.

This is in brief the system provided. Its intent is only the achievement of national safety. To secure this aim, the National Defense Act provided an enlisted strength of 280,000 for the Regular Army. This figure has never been reached. Instead, in the period from 1922 to 1935, this standard was lost sight of, and enlisted strength gradually dropped until it reached 118,750 exclusive of Philippine Scouts. Therefore, for those 13 years, the Army was steadily losing ground in respect to its ability to perform its vital emergency missions. But, aside from advice and representation of conditions to the Congress of the United States, there was nothing the War Department could do to improve the situation. Military men realized the dangers, real and potential, and, particularly throughout the past five years, urged appropriate congressional committees to take remedial action. Just so long as the financial means were withheld with which to correct deficiencies, the Congress must of necessity be held responsible for every defect that could have been eliminated by sufficient fiscal support. However, since funds have now been provided to meet many of the serious army deficiencies that have accumulated and to correct glaring makeshift practices, Congress has placed responsibility for the efficiency of the country's military defenses back on the shoulders of the army. Enlisted strength was authorized by recent legislation to be raised from 118,000 to 165,000, this last figure representing the minimum force which it is believed could successfully carry out the essential duties of the Regular Army. A concurrent recommendation for an increase in officer strength was not favorably acted upon but will very probably receive consideration at an early date.

Congress also increased the size of the cadet corps at the United States Military Academy and provided a new promotion plan for officers of the Regular Army.

While these things were happening externally, there were two important administrative accomplishments within the Army—the perfection of the Four Army Plan and the establishment of the General Headquarters Air Force. The first of these was a logical development of army maneuvers held during 1934; the second was a new venture.

MOTOR EQUIPMENT

To defend himself, his interests and possessions, man has from the earliest times utilized the most effective means at his disposal. The record of nations in this respect does not vary from that of individuals. The complexity and variety of the means of warfare are such as to demand the utmost of a present-day armed force. Should war eventuate, any army has but one purpose—to bring it as speedily as possible to a successful termination. Increased funds provided legislatively for our army have made possible the purchase of modern equipment and have provided funds for experimentation looking toward perfecting still finer accoutrements. Three lines of effort stand out sharply in 1935 as to Army equipment: (1) the use of motor equipment wherever possible, (2) the procurement of more and better type airplanes, and (3) the development of improved weapons and ammunition. Each will be discussed briefly in the light of the past year's achievement.

The legitimate and sensible use of motorized combat vehicles throughout Army components accomplishes two things, first, it increases fire power and, secondly, it provides greater troop mobility, both are desirable objectives. However, certain cautions are necessary for the Army to observe while making progress in this field. One of the elements that must be kept constantly in mind is that of inventive genius, clearly an unpredictable item. That which is standard today may be made obsolete tomorrow because of some brilliant mental conception which would revolutionize the trend in an entire sphere of effort. The prohibitive cost of complete motorization also operate as a check, particularly with respect to the accumulation of surpluses. The Army has, therefore, adopted a policy of motorizing certain units to a degree which will determine just what may be expected of mechanical equipment and will provide a norm to which all effort may be immediately adapted should an emergency occur.

In the Infantry regiment, one battalion will be entirely motorized for the purpose of handling the heavier weapons; old escort wagons have been replaced by modern one and one-half ton commercial trucks and other cross-country vehicles, developed by the American automotive industry, are fast replacing the horse and mule. Likewise in the Infantry arm the past year has seen the motorization of all divisional headquarters and headquarters companies, regimental headquarters and field trains, and partial motorization of communications elements, mortars, and machine guns. As an auxiliary to Infantry operations, two types of tanks have been developed, the medium and the light.

In the Field Artillery, 60 per cent of the active firing batteries were motorized and a regiment (less two battalions) of 155 mm. howitzers was constituted at Fort D. A. Russell, Marfa, Texas, to test the present mobilization training schedules.

In the Cavalry, the field trains of all horsed regiments were equipped with 4-wheel drive trucks, augmented by trailers. These latter are of the type that can be animal-drawn over terrain that cannot be crossed by motors. Combat vehicles and armament designed for the motorized cavalry regiment were supplied during the year.

AIRPLANES

The retiring Chief of Staff, General Douglas MacArthur, stated in his final report: ''Modern equipment for our Air Corps presents a somewhat special problem, because the radical changes and astonishing improvements that are being made from year to year in aircraft design indicate that the airplane is not yet a standardized article which may safely be procured in large quantities without danger of obsolescence. . . . Nevertheless, the air element will undobutedly play an important part in modern warfare, and the latest combat planes have reached such a degree of efficiency that they will unquestionably remain useful for a number of years, even if improved models should come out.'' Accordingly, there was recommended for adoption a five-year plan calling for the procurement of approximately 800 airplanes of various types annually. This plan was put into operation by Secretary of War Dern when he signed purchase contracts late in 1935 for a considerable number of varied types of planes. The necessity for this decisive action becomes more apparent when it is realized that army plane strength had sunk during the year to 1,196 machines, of which but 838 were combat type.

WEAPONS AND AMMUNITION

Our munitions are largely those produced during or prior to the World War. Experimentation in artillery and infantry weapons produced certain definite types during the year, the first noticeable advance in the past 13 years.

The Infantry's Springfield rifle, 1903 model, is to be replaced by a caliber .30 semi-automatic rifle with which it is possible to secure a greatly increased rate of fire with less fatigue to the soldier.

In the Field Artillery, the French ''75's'' are to be replaced by a new gun with greatly increased flexibility of fire, longer range, and one which is capable of being towed at high rates of speed without bad effects to the weapon.

In the Coast Artillery, an improved carriage was developed for railway guns to provide a considerable increase in range. An improved mount was also fabricated for anti-aircraft guns making possible greater mobility.

The most outstanding advance in ammunition manufacture was in that for small arms, where latest types have almost doubled the range of similar World War calibers, and in the production of armor-piercing bullets.

PERSONNEL

Increase in enlisted strength has already been pointed out and the need for increased officer strength has been indicated. However, for those commissioned officers in the service during 1935, the year will be memorable for the achievement of a promotion plan which was long sought. Promotion stagnation was undermining morale, for many officers had spent their entire army careers in the same grade. Junior grades were filled with officers grown old. By the operation of the newly-passed law, nearly half of the promotion list below the rank of colonel were immediately advanced while all others were so elevated as to bring them many years closer to promotion than they would have been normally. Voluntary retirement for World War officers with graded retired pay was also provided under the same law.

Along with promotion legislation came certain pay rulings which were beneficial. Temporary reductions in pay and allowances were eliminated and longevity increases were restored to the pay schedules.

By reason of the retirements made possible under the operation of the new promotion law, it was recognized that provision would have to be made to avert a shortage of officers in the future. One step in this direction was the authorization by Congress to increase the Corps of Cadets at the United States Military Academy from 1,374 to 1,960. The first class to be enrolled under this authorization entered the Academy during July, 1935.

ORGANIZATION

The War Department is the managing agency of the Army of the United States. This agency is presided over by the Secretary of War (George H. Dern) and he has two aides, one, the Assistant Secretary of War (Harry H. Woodring), the other, the Chief of Staff (General Malin Craig). Under this combined direction, the General Staff and the various arms and branches of the service operate. The advice and best judgment of the Chiefs of the several arms and branches reach the Secretary of War through the Chief of Staff and the Deputy Chief of Staff (Major General George S. Simonds).

The Regular Army is comprehended under the Four-Army Plan by which the following Army Headquarters and command are established: First (Major General Dennis E. Nolan) at Governors Island, New York; Second (Major General Frank R. McCoy) at Chicago, Illinois; Third (Major General Johnson Hagood) at Fort Sam Houston, San Antonio, Texas; and Fourth (Major General Paul B. Malone) at San Francisco, California.

For flexibility in command and control, the United States and its possessions are further divided into Corps Areas and Departments, each in turn commanded by a general officer. First Corps Area (Major General Fox Conner) headquarters, Boston, Massachusetts; Second Corps Area (Major General Dennis E. Nolan) headquarters, Governors Island, New York; Third Corps Area (Major General Albert J. Bowley) headquarters, Baltimore, Maryland; Fourth Corps Area (Major General George Van Horn Moseley) headquarters, Atlanta, Georgia; Fifth Corps Area (command to be announced) headquarters, Columbus, Ohio; Sixth Corps Area (Major General Frank R. McCoy) headquarters, Chicago, Illinois; Seventh Corps Area (Major General Frank C. Bolles) headquarters, Omaha, Nebraska; Eighth Corps Area (Major General Johnson Hagood) headquarters, San Antonio, Texas; Ninth Corps Area (Major General Paul B. Malone) headquarters, San Francisco, California; Hawaiian Department (Major General Hugh A. Drum) headquarters, Fort Shafter; Philippine Department (Major General Lucius R. Holbrook) headquarters, Manila; Panama Canal Department (Major General Lytle Brown) headquarters, Quarry Heights. These areas and departments are subdivided into tactical divisions and brigades.

The most significant advance in army organization during many years was the organization in the last fiscal year of the new General Headquarters Air Force with Major General Frank M. Andrews at the head. This force, with headquarters at Langley Field, Virginia, is composed of practically all of the combat elements of the Air Corps in continental United States. It is so organized that concentration of air strength at any point can be quickly and efficiently accomplished, even though the various elements are scattered among widely spaced flying fields. In peace, this force is directly under the Chief of Staff; in war, under the chief of the field forces. Three territorial subcommands or wings, each strategically well located, comprise the new element. These wings have their headquarters on the west coast, (March Field, Riverside, California) the east coast, (Mitchel Field, New York) and in the south central section of the country (Barksdale Field, Louisiana), respectively. By reason of this alignment within the Air Corps, the Chief of the Corps is relieved of the responsibility of training, administration, and command of Air Corps units and is free to devote his energy to problems of procurement, technique, and aviation schools.

NATIONAL GUARD

On June 30, 1935, the strength of this arm was 13,370 officers, 201 warrant officers, and 172,244 enlisted men. The Army Appropriation Act for 1936 authorized an increase of 5,000 in the National Guard which is a step in the direction of the 210,000 strength regarded as proper for this force. During the year most of the National Guard light field artillery was converted from animal-drawn to motor-drawn and modified as to increase possible road speeds. Field training camps were reconditioned and motor vehicles were freely used in enlarging the scope of training afforded at the various camps.

ORGANIZED RESERVES

In recent years, the World War personnel of the Organized Reserve has gradually been supplanted by new Reserve officers coming from the ranks of college graduates who have taken advanced Reserve Officers' Training Corps training. Unfortunately, lack of funds has seriously curtailed the number that could be given active military duty so that many excellent Reserve officers have failed to receive this training, except at intervals of five or six years. Provision for the coming year allows active duty training for 20,000 Reserve Officers.

SIGNAL CORPS

Four major procuring agencies and eight depots operated to handle the procurement, storage, and issue of all communications supplies and equipment needed during the year. At four Air Corps depots and at seven Signal Corps depots, general and radio repair shops were operated.

The first terse news of the tragedy in August, 1935, in which Will Rogers and Wiley Post lost their lives, came from the Washington-Alaska Cable and Telegraph System radio station at Point Barrow, Alaska. The operator in charge, Sergeant Stanley R. Morgan, recovered the bodies and communicated to the outside world the tragic details of the accident.

AIR CORPS

For the first time, Alaska was linked to Washington, D. C. by air flight when ten new bombers (B—10's) made the round-trip flight. The mission of this flight, in addition to being a test for long-range bombing planes, was chiefly photographic and during the flight an area of 35,000 square miles was photographed in three consecutive days.

During February, 1935, cold weather operation of airplanes, engines, and auxiliary flying equipment and accessories was given intensive trial in northwestern United States by a composite tactical unit which included various types of modern airplanes.

ENGINEER CORPS

Total expenditures during the fiscal year on all civil works of the Corps of Engineers amounted to over $200,000,000. This provided direct employment for 79,500 persons and operated as a stimulant to economic recovery. On June 6, 1935, the first allotment of emergency relief appropriation funds was received; by July 27, work aggregating over $68,200,000 had been advertised or placed under way. Additional funds have been provided to continue work on river and harbor and flood control projects and of the latter, 280 economically justifiable projects, involving approximately $397,000,000, have been selected for inclusion in the relief program.

The continuing program for the improvement of inland waterways contemplates providing (1) a 9-foot channel on the Mississippi River for modern barge transportation from its mouth to St. Paul and Minneapolis; (2) an 8 to 9-foot channel on the Missouri from its mouth to Sioux City, Iowa; (3) a 9-foot channel in the Illinois Waterway forming a part of the Lakes-to-the Gulf Waterway; (4) the improvement of the Great Lakes-St. Lawrence Seaway to bring ocean-going ships to Great Lakes ports. Since the United States Senate declined to ratify a treaty under negotiation between Canada and the United States, the last-named project has not been started. The Mississippi River project is about 50 per cent complete with $25,000,000 made available to build five more locks and four more dams. An allotment of $10,000,000 will practically complete the channel of the Missouri River to Omaha, Nebraska. When the Fort Peck Dam, which is now nearing the halfway mark, is completed, an effort will be made to bring the entire Missouri River project to completion. A recent decision of the Supreme Court of the United States limits the diversion of water from the Great Lakes and this has made it essential that existing locks and dams on the Illinois River be replaced by two new locks and dams to insure a dependable channel. When funds for these requirements are provided, the Great Lakes—Gulf waterway can be materially advanced toward completion. (See also ''Waterways and Harbors'', pp. 319-325).

One of the most interesting engineering tasks ever attempted is that of the Passamaquoddy project at Eastport, Maine, where the Engineer Corps will undertake the development of the first major engineering project ever to utilize tidal power for the generation of hydroelectric power. This work was initiated during the year and its completion will be watched with interest throughout the civilized world.

The 29th Engineers Regiment, the principal topographic organization of the Army, conducted field operations in the vicinity of Puget Sound, Washington. The progress of its work was aided by aerial photography by the Air Corps and experimental work with aerocartographs for reduction of field data. Surveying and revision of maps were also accomplished in our insular possessions.

QUARTERMASTER CORPS

Working with funds provided under the National Recovery Act, the Corps completed a new water system at Fort Leavenworth, Kansas, and reconstructed the sub-structure of the Boston Army Base. The transport *St. Mihiel* was again put into commission and transported farmers from the drought-stricken areas in the northwestern states to Matanuska Valley, Alaska, *via* Seward and the Alaskan Railroad, during May, 1935. The first contingent left San Francisco May 1 and arrived at Seward May 6. The second contingent left for Seward May 18 and arrived, May 22.

CORPS OF CHAPLAINS

Religious work was prosecuted at military posts and was particularly active in the summer camps and forestry camps of the Civilian Conservation Corps. During the year, eight new army chapels were built, equipped and dedicated.

CIVILIAN CONSERVATION CORPS

Under the supervision of the Director of Emergency Conservation Work, Robert Fechner, the War Department receives, immunizes, conditions, organizes, feeds, clothes, and shelters the men enrolled in the Corps. It also establishes, constructs, and administers the work camps; supervises the health, sanitation, hospitalization, welfare, and recreation of the members of the Corps. In this work during the year, excellent work was done by Reserve Corps officers called to active duty for that purpose.

BUREAU OF INSULAR AFFAIRS

An outstanding non-military activity of the War Department is that of handling affairs pertaining to the Philippine Islands. The most significant event of the year was the meeting of the Philippine Constitutional Convention assembled at Manila, July 30, 1934, which continued in session until Feb. 8, 1935 to draft a constitution for the Islands. The results of the deliberations of this body were submitted to the President of the United States, March 18, 1935 and he certified to the Governor General of the Philippines on March 23, 1935 that the instrument of constitution conformed to the provisions of the Philippine Independence Act. On May 14, 1935, the Philippine people voted, 1,213,046 to 44,963 to ratify. On Sept. 17, 1935, the first election of officers for the Commonwealth government was held and on Nov. 15, the first group of officers, so elected, were inducted into office. Our representation to the Philippines from henceforth will be through the office of United States High Commissioner to the Philippine Islands as provided in the Independence Act.

DOMINICAN CUSTOMS RECEIVERSHIP

Because of increased value in imported merchandise and generally better economic conditions, customs collections for this receivership increased 6.32 per cent, or $189,622.19 over the previously recorded year; there was a corresponding gain of $351,518.94, or 21 per cent, in internal revenue taxes collected, independent of customs duties.

PANAMA CANAL

The Panama Canal, an independent establishment of the United States Government, has had as its Governor since Oct. 21, 1932, Colonel J. L. Schley. Under existing treaties, the Canal Zone is neutralized under the guaranty of the United States, and, to further this purpose, the Republic of Panama granted to the United States in 1903, in perpetuity, the use, occupation and control of the Canal Zone and any further lands necessary to the operation of the Canal.

To operate and maintain this gigantic enterprise adequately, the Panama Canal and the Panama Railroad Company operate many business enterprises—marine and railroad repair shops; drydocks; coal and fuel-oil plants; storehouses essential to shipping; wholesale warehouses and retail stores supplying food stuffs and clothing; hotels and restaurants; wharf terminals and piers; a railroad line across the Isthmus; a steamship line between New York and the Isthmus, and generating systems to provide electricity for use in the Zone. Under the same coordinated control which handles these affairs are also administered matters of public health, quarantine, immigration, customs, post office, schools, police and fire protection, construction and maintenance of roads and water supply systems, hydrographic and meteorological observations, steamship navigation, control of commercial aircraft, and aids to navigation.

During the year, construction work on Madden Dam was completed, formal acceptance being made on Feb. 9, 1935. As an agent of national defense, the Panama Canal was used to pass the United States fleet from the Atlantic to the Pacific in a total elapsed time of 40 hours.

Net revenue from tolls and other sources during fiscal year was $15,540,722.62; total revenue since opening of the Canal, was $206,517,411.62. For the year ended June 30, 1935, there were 5,180 commercial transits through the Canal; of these, 2,504 vessels went from the Pacific to the Atlantic with a total of 17,779,806 cargo tons, and 2,676 went from the Atlantic to the Pacific with a total of 7,529,721 cargo tons. By nationality, the total transits were divided as follows: United States, 2,143; British, 1,170; Norwegian, 515; German, 341; Japanese, 255; Swedish, 111; French, 116, Netherland, 114; Danish, 125; and the remaining 290 scattered among twelve other nationalities.

STRENGTH OF THE REGULAR ARMY OF THE UNITED STATES JUNE 30, 1934, AND JUNE 30, 1935, AND LOSSES DURING THE FISCAL YEAR INTERVENING

Arm or Service	Strength, June 30, 1934		Strength, June 30, 1935		Losses													
					Officers								Warrant Officers					
									Died							Died		
	Officers	Enlisted men	Officers	Enlisted men	Retired	Resigned	Discharged	Dismissed	Of disease	Of accident	Suicide	Total	Retired	Resigned	Discharged	Of disease	Appointed Teacher of Music, U. S. Military Academy	Total
General officers of the line	67	...	66	...	8	...	(1)	...	...	...	...	8	...	...	...	...	...	...
General Staff Corps	224	...	218	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Adjutant General's Department	93	...	92	...	7	...	...	...	...	1	...	8	...	...	...	...	...	...
Inspector General's Department	38	...	40	...	3	...	...	...	...	...	...	3	...	...	...	...	...	...
Judge Advocate General's Department	92	...	94	...	7	...	...	...	...	...	...	7	...	...	...	...	...	...
Quartermaster Corps	727	7,449	687	7,691	57	...	...	2	5	1	...	65	...	...	...	...	...	...
Medical Department	1,238	6,594	1,280	6,604	55	2	...	...	9	...	...	66	...	...	...	...	...	...
Finance Department	126	377	122	372	9	...	...	...	1	...	...	10	...	...	...	...	...	...
Corps of Engineers	458	4,251	460	4,444	8	4	...	...	3	...	...	15	...	...	...	...	...	...
Ordnance Department	271	2,032	266	2,090	5	...	...	...	1	...	...	6	...	...	...	...	...	...
Signal Corps	211	2,563	207	2,646	4	...	...	...	...	...	...	4	...	...	...	...	...	...
Chemical Warfare Service	82	420	83	450	5	...	...	...	1	...	...	6	...	...	...	...	...	...
Bureau of Insular Affairs	4	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chaplains	120	...	118	...	4	...	...	...	2	...	...	6	...	...	...	...	...	...
Professors, U. S. Military Academy	8	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cavalry	580	7,694	570	7,601	23	1	1	2	1	1	2	31	...	...	...	...	...	...
Field Artillery	989	14,463	988	14,924	18	3	...	1	1	3	2	28	...	...	...	...	...	...
Coast Artillery Corps	728	13,072	694	13,027	33	...	...	...	4	...	...	37	...	...	...	...	...	...
Infantry	2,358	39,476	2,292	39,432	102	8	2	3	9	3	2	129	...	...	...	...	...	...
Air Corps	1,307	14,314	1,226	14,719	24	1	...	...	6	12	...	43	...	...	...	...	...	...
Detached list	2,491	4,812	2,464	4,727	131	...	...	1	10	1	...	143	...	...	...	...	...	...
Total, less Philippine Scouts	12,212	117,517	11,979	118,727	504	19	3	9	53	22	6	616	...	...	...	...	...	...

Philippine Scouts:																		
Judge Advocate General's Department	1				1							1						
Quartermaster Corps	14	429	13	431	1							1						
Medical Department		306		311														
Finance Department		6		6														
Corps of Engineers	5	319	4	320	1							1						
Ordnance Department		45		45														
Signal Corps	2	121	2	126														
Cavalry	3	559	2	562	1							1						
Field Artillery	7	960	7	974														
Coast Artillery Corps	9	1,248	9	1,263														
Infantry	25	2,313	21	2,333	4							4						
Total	66	6,306	58	6,371	8							8						
Grand total	12,278	123,823	12,037	125,098	512	19	3	9	53	22	6	624						
Warrant officers:																		
Army mine-planter service	40		40										1					1
Band leaders	84		77										5	1			1	7
Others	745		708										65	1	2	4		72
Total	869		825										71	2	2	4	1	80
Retired, on active duty:																		
Regular Army	5		6															
Philippine Scouts																		
Total	5		6															
Aggregate	13,152	123,823	12,868	125,098	512	19	3	9	53	22	6	624	71	2	2	4	1	80

(1) Honorably discharged.

Arm or Service	Losses (Continued)																				
	Enlisted Men																				
	Retired	Discharged																			
		Expiration of service	Disability	By sentence of general court-martial	Fraudulent enlistment						Convenience of Government										
					Dependency concealed	Marriage concealed	Disability concealed	Prior service concealed	Criminal record concealed	Alien citizenship concealed	To enter U. S. Naval Academy	To enter Coast Guard Academy	To accept civil appointment	To accept commission	To accept appointment as Warrant Officer	To enter U. S. Soldiers' Home	To enter U. S. Military Academy	To reenlist for foreign service or special detail	Completion of flying course	Disqualified as flying cadet
General officers of the line	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
General Staff Corps	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Adjutant General's Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Inspector General's Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Judge Advocate General's Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Quartermaster Corps	58	1,782	64	39	...	13	...	1	2	...	...	...	...	...	3	7	...	243	...	...
Medical Department	24	1,472	131	45	1	8	2	3	6	...	...	...	...	3	6	2	2	200	...	...
Finance Department	3	84	2	2	...	...	...	...	...	...	...	...	...	...	2	...	1	15	...	...
Corps of Engineers	13	728	93	19	...	...	1	10	3	...	...	...	...	...	3	...	2	137	...	...
Ordnance Department	25	468	19	10	1	1	...	1	...	...	...	...	...	...	...	5	...	62	...	...
Signal Corps	3	552	27	7	1	4	...	1	...	...	...	...	...	...	1	1	...	74	...	...
Chemical Warfare Service	2	60	8	...	1	1	1	1	1	...	...	...	...	...	...	...	...	13	...	...
Bureau of Insular Affairs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chaplains	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Professors, U. S. Military Academy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cavalry	37	1,680	68	76	4	8	6	...	2	...	...	...	...	...	2	1	3	170	...	...
Field Artillery	35	2,476	215	103	8	17	12	9	16	1	...	...	...	...	1	8	2	422	...	...
Coast Artillery Corps	81	1,894	276	58	5	22	17	20	5	...	...	...	2	...	1	4	14	260	...	...
Infantry	159	7,091	592	192	17	45	67	23	29	...	1	...	...	...	5	32	27	970	...	...
Air Corps	17	2,931	131	48	2	10	5	4	2	...	...	2	3	32	5	5	4	391	18	167
Detached list	91	1,157	41	7	3	3	...	...	1	...	...	...	...	...	12	1	1	78	...	...
Total, less Philippine Scouts	548	22,375	1,667	606	43	132	111	73	67	1	1	2	5	35	41	66	56	3,035	18	167

Philippine Scouts:																				
Judge Advocate General's Department	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Quartermaster Corps	13	241	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medical Department	14	148	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Finance Department	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Corps of Engineers	8	205	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ordnance Department	2	21	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Signal Corps	...	73	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cavalry	17	335	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Field Artillery	22	586	6	1		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Coast Artillery Corps	54	682	11	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Infantry	59	1,460	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	190	3,752	47	4	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Grand total	738	26,127	1,714	610	43	132	111	73	67	1	1	2	6	35	41	66	56	3,035	18	167
Warrant officers:																				
Army mine-planter service	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Band leaders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Others	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Retired, on active duty:																				
Regular Army	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Philippine Scouts	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Aggregate	738	26,127	1,714	610	43	132	111	73	67	1	1	2	6	35	41	66	56	3,035	18	167

Arm or Service	Losses (Continued)																
	Enlisted Men (Continued)																
	Discharged (Continued)								Died								
	Conv. of Gov. (Cont'd)																
	Returned from foreign service having less than one year to serve	Special cases	Dependency, Section 29, National Defense Act	Minority	Inaptness or undesirable habits or traits of character	Purchase	Sentence to imprisonment by Civil Court	Desertion	Of disease	Of accident	Drowned	Suicide	Homicide	Deserted	Dropped, suspended sentence, G. C. M.	Total	Returned from desertion
General officers of the line	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
General Staff Corps	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Adjutant General's Department	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Inspector General's Department	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Judge Advocate General's Department	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Quartermaster Corps	532	....	13	2	40	250	12	5	16	2	2	2	3	93	7	3,191	64
Medical Department	330	1	27	8	79	240	36	10	12	2	1	2	2	184	15	2,854	90
Finance Department	1	....	....	....	....	15	....	....	1	....	....	1	....	1	....	128	1
Corps of Engineers	530	....	12	2	46	110	7	7	10	5	....	2	....	116	4	1,860	66
Ordnance Department	154	....	1	....	11	46	13	1	8	2	1	2	....	29	....	860	13
Signal Corps	172	....	3	1	12	105	5	3	1	2	....	....	....	24	1	1,000	15
Chemical Warfare Service	61	....	....	....	2	9	3	1	....	....	....	....	....	4	....	168	4
Bureau of Insular Affairs	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Chaplains	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Professors, U. S. Military Academy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cavalry	....	....	60	4	83	215	33	14	21	11	1	1	....	381	27	2,908	173
Field Artillery	1,006	....	93	14	98	384	72	19	26	20	4	7	....	568	77	5,713	304
Coast Artillery Corps	2,754	....	51	16	67	316	36	7	24	10	2	1	1	225	8	6,177	98
Infantry	4,144	3	164	21	480	1,227	162	48	68	34	9	19	5	1,277	136	17,047	572
Air Corps	723	....	54	2	57	529	36	11	25	38	2	6	....	147	9	5,416	105
Detached list	26	....	2	....	14	126	7	2	20	3	....	3	1	27	....	1,626	10
Total, less Philippine Scouts	10,433	4	480	70	989	3,572	422	128	232	129	22	46	12	3,076	284	48,948	1,515

Philippine Scouts:																	
Judge Advocate General's Department	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Quartermaster Corps	....	....	....	....	....	1	....	....	....	2	....	....	....	....	....	259	....
Medical Department	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	167	....
Finance Department	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....
Corps of Engineers	....	....	....	....	....	2	....	....	2	....	....	....	....	....	....	219	....
Ordnance Department	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	24	....
Signal Corps	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	75	....
Cavalry	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	358	....
Field Artillery	....	....	....	....	2	2	....	....	2	....	....	....	....	....	....	621	....
Coast Artillery Corps	....	....	....	....	....	1	....	....	3	1	....	....	....	1	....	754	....
Infantry	....	....	....	....	1	5	....	....	4	....	3	....	....	....	....	1,551	....
Total	....	....	....	....	5	13	....	....	11	3	3	....	....	1	....	4,030	....
Grand total	10,433	4	480	70	994	3,585	422	128	243	132	25	46	12	3,077	284	52,978	1,515
Warrant officers:																	
Army mine-planter service	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Band leaders	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Others	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Retired, on active duty:																	
Regular Army	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Philippine Scouts	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Aggregate	10,433	4	480	70	994	3,585	422	128	243	132	25	46	12	3,077	284	52,978	1,515

IX. DEFENSE AND ARMAMENT

STRENGTH OF THE REGULAR ARMY BY CORPS AREAS

Corps Area, Department, or Country	July, 1934			June, 1935		
	Officers	Warrant Officers	Enlisted Men	Officers	Warrant Officers	Enlisted Men
First Corps Area	484	53	3,729	462	48	4,045
Second Corps Area[1]	1,245	93	12,346	1,178	93	12,920
Third Corps Area	1,915	115	11,640	1,851	105	10,853
Fourth Corps Area	1,182	62	11,396	1,205	56	11,638
Fifth Corps Area	593	54	3,940	564	52	4,210
Sixth Corps Area	589	49	5,184	561	51	5,161
Seventh Corps Area	993	52	7,522	974	50	7,228
Eighth Corps Area	1,721	118	20,389	1,659	110	20,419
Ninth Corps Area[2]	1,141	122	12,336	1,011	108	11,733
Total in continental United States	9,863	718	88,482	9,465	673	88,207
Hawaiian Department	794	51	13,307	737	51	14,033
Panama Canal Department[3]	428	40	8,295	411	35	10,115
Alaska	13	....	293	9	....	275
Puerto Rico	51	6	805	51	6	792
Philippine Department:						
Regular Army	546	49	4,133	569	58	4,560
Philippine Scouts[4]	62	....	6,344	57	....	6,371
China	47	2	666	48	2	704
Miscellaneous[5]	508	....	1,221	696	....	41
Grand Total[6]	12,312	866	123,546	12,043	825	125,098

[1] Excludes Puerto Rico.

[2] Excludes Alaska.

[3] Includes Panama civil government.

[4] Excludes officers of the Philippine Scouts attending general and special service schools in continental United States.

[5] Includes military attaches, personnel on leave and en route to and from oversea garrisons.

[6] Includes personnel of the retired list on active duty.

MILITARY EDUCATION

In every case below, the name of the course presented at the various schools will be followed by a figure representing the number of graduates from such course.

Cavalry School, Fort Riley, Kansas.—Advanced Equitation, 10; Regular Army Officers, 24; Post of Fort Riley, 31; National Guard and Reserve Officers, 27; Noncommissioned Officers, 29; Noncommissioned Officers Advanced Equitation, 10; Horseshoer, 30; Saddlers, 24.

Field Artillery School, Fort Sill, Okahoma.—Regular, 52; Advanced horsemanship, 3; Motors (Advanced), 4; Communications (Advanced), 4; National Guard and Reserve Officers (Fall), 26; National Guard and Reserve Officers (Spring), 25; Refresher, 1; For Enlisted Men, the following—Horseshoers, 5; Motor Mechanics (Fall), 5 and (Spring), 36; Saddlers, 5; Battery Mechanics, 5; Communications, 41; Cooks and Bakers (Fall and Winter), 17 and (Spring) 16; Pastry (Winter), 6 and (Spring) 5.

Coast Artillery School, Fort Monroe, Virginia.—For Officers, the following—Regular, 33; Advanced Technical, 2; National Guard and Reserve Officers Special for Battery Officers, 21. For Enlisted Men, Electrical, Sect. A, 10 and Sect. B, 8; Master Gunners, 6; Radio, 5; Master Gunners Refresher, 1; Special Electrical, Sect. B, 11; Special Radio Operators, 5; Clerical, two sections, 34.

Engineer School, Fort Belvoir, Virginia.—For Officers—Regular Army, 16; National Guard (7) and Reserve (20), 27; For Enlisted Men—Surveying, Drafting and Aerial Photographic Mapping, 24; Map Reproduction and Photography, 6; Electrical, Motors, and Water Purification, 14.

Signal School, Fort Monmouth, New Jersey.—For Officers—Advanced, 3; Company, 6; Communications, 12; Special Air Corps Communications, 21; For Enlisted Men—Meteorological Forecasters, 7; Meteorological Observers, 17; Telephone Electricians, 47; Radio Electricians, 70.

Finance School, Washington, D.C.—Resident, 47; Home study by correspondence, 207.

Infantry School, Fort Benning, Georgia.—Regular, 122; Tanks, 20; National Guard and Reserve Company Officers, 108; Motor Mechanics for Regular Army Enlisted Men, 40; Communications for Regular Army and National Guard Enlisted Men, 34; Horseshoers, Basic, 2; Horseshoers, Advanced, 11.

Medical Field Service School, Carlisle Barracks, Pennsylvania.—Basic, 81; Advanced, 30; Noncommissioned Officers, 45.

Army Medical Center, Washington, D. C.—Medical, Advanced Graduates, 15; Medical, Enlisted Specialists, 39; Dental, Advanced Graduates, 6; Dental, Enlisted Specialists, 14; Veterinary, Advanced Graduates, 5; Veterinary, Enlisted Specialists, 9.

School of Aviation Medicine, Randolph Field, Texas.—Aviation Medicine, 30.

Ordnance School, Massachusetts Institute of Technology; Watertown Arsenal, Massachusetts; Picatinny Arsenal, New Jersey; and Aberdeen Proving Ground, Maryland.—Basic, two-year course, 10.

Ordnance Field Service School, Raritan Arsenal, New Jersey.—Noncommissioned Officers, 38; Enlisted Specialists, 55.

Chemical Warfare School, Edgewood Arsenal, Maryland.—Special for National Guard Officers, 49; Line and Staff Officers, 27; Navy Ordnance Postgraduate, 20; Navy Line Officers, 19; Field Officers, 52.

Quartermaster Corps School, Philadelphia.—Officers, 19; Warrant Officers and Enlisted Men, 47.

Quartermaster Corps Subsistence School, Chicago.—Officers, (Regular Army 7; Navy 2; Infantry Reserve, 1), 10; Three-months Special (National Guard Officers, 9; Philippine Constabulary Officers, 1; Regular Army Enlisted Men, 8), 18.

Quartermaster Corps Motor Transport School, Holabird Depot, Baltimore.—Officers (Regular Army, 7; Marine Corps, 1), 8; Enlisted Men, 79.

Quartermaster Corps Schools for Bakers and Cooks.—From 12 schools, 1,000 Enlisted Men and 30 Officers.

Air Corps Tactical School, Maxwell Field, Montgomery, Alabama.—49 Air Corps Officers, 5 Regular Army Officers, 3 Marine Corps Officers, and 3 foreign students for a total of 60; Tactical Unit Training (1-year course), U.S.A. Flying Cadets, 89.

Air Corps Primary Flying School, Randolph Field, Texas.—41 Regular Army Officers, 152, U.S.A. Flying Cadets, 6 foreign students for a total of 199.

Air Corps Engineering Schools, Wright Field, Dayton, Ohio.—Aero Engineering, 6.

Air Corps Advanced Flying School, Kelly Field, San Antonio, Texas.—54 Regular Army Officers, 146 U.S.A. Flying Cadets, 4 foreign students for a total of 204.

Air Corps Technical School, Chanute Field, Rantoul, Illinois.—For Officers — Maintenance Engineering-Armament, 13; Photography, 3: For Enlisted Men—Airplane Mechanics, 56; Armorers, 29; Machinists, 11; Parachute Riggers, 10; Welders, 22; Supply and Technical Clerks, 36; Instrument Inspection and Maintenance, 10.

Rockwell Field, San Diego, California.—Advanced Navigation, 44.

Command and General Staff School, Fort Leavenworth, Kansas.—A total of 113.

The Army War College, Fort Humphreys, Washington, D. C.—76 Regular Army Officers, 4 Navy Officers, 2 Marine Corps Officers, for a total of 82.

The Army Industrial College, Washington, D. C.—41 Regular Army Officers, 9 Navy Officers, 2 Marine Corps Officers, for a total of 52.

United States Military Academy, West Point.—From the June, 1935 class of cadets, 277.

Reserve Officers' Training Corps.—

	Units	Enrollment
Senior	216	71,955
Junior	103	40,479

In the 63 Summer Training Camps there were enrolled 76 basic course students and 6,740 advanced course students. A total of 50 preparatory schools, including high schools, received government aid. In the second year advanced course there was an enrollment total of 6,377; to 5,543 graduates from this course there were offered commissions as lieutenants in the Officers' Reserve Corps and 807 certificates were granted to graduates under the age of 21, or who did not desire appointment at the time.

Citizens' Military Training Camps. Applications received, 53,596; of these there were ordered to camps, 33,655; of this number, 32,381 reported to camps; these provided an enrollment of 31,362; from this enrollment, 30,084 completed the training. The Blue Course graduated 1,698 and from these there were 125 appointments given as second lieutenants in the Reserve Corps.

Civilian Educational Institutions. A total of 78 commissioned officers of the Regular Army took courses of instruction at civilian institutions in the United States. They were divided among the several arms of service as follows: Infantry, 2; Field Artillery, 1; Coast Artillery Corps, 2; Air Corps, 6; Corps of Engineers, 17; Signal Corps, 9; Judge Advocate General's Department, 9; Quartermaster Corps, 9; Finance Department, 1; Medical Department, 11; Ordnance Department, 4; Chemical Warfare Service, 3; Chaplains, 4.

Foreign Schools.—A total of 28 commissioned officers of the Regular Army attended foreign schools as students—Ecole de Guerre, France, 3; Tank School, France, 1; Traveling scholarship in Europe, 2; Various clinics in Europe, 1; Course in surgery, Vienna, Austria, 1; Oxford University, England, 3. Language students—China and Japan, 14; France, 2; Spain, 1.

Foreign Officers.—During the year, 20 officers from foreign armies and navies attended our army service schools. The countries represented and the number from each were: Brazil, 2; China, 4; Columbia, 1; Japan, 1; Mexico, 3; Poland, 1; Turkey, 8.

GENERAL STATISTICS

Inspector General's Department.—A total of 1,220 inspections was made, divided among—229 involving discipline and morale; 379 involving supply and administration; 612 involving disbursing accounts.

National Guard.—There were 60 instances in which the National Guard was called to duty in civil disturbances. This involved 2,589 officers, 13 warrant officers, and 33,011 enlisted men for duty scattered among 32 states and 1 territory; in 17 instances, state troops assisted civil authorities in public disasters.

Judge Advocate General's Department.—There were 1,407 persons tried by general court-martial; 1,318 convictions and 89 acquittals resulted. There were prepared 1,276 formal written opinions covering contracts and reservations; concerning claims and bonds, 1,134 opinions were handed down and, on questions affecting Army organization, there were prepared 642 decisions. The Patent Section prosecuted 76 patent applications and defended 44 cases involving approximately 278 million dollars.

Quartermaster General's Department.—Under the National Recovery Act and the Emergency Appropriations Act there was completed a construction program costing $65,327,964. Under the disposal of waste material the following statistics are recorded:

Money value of condemned property:

Used within Army	$182,246
Transferred to other depts.	717,926
Sold	675,993
	$1,576,165

Corps of Chaplains.—Strength: Authorized, 125; actual, 118. In the National Guard, 216 chaplains; in the Reserve Corps, 999. Services conducted by Regular Army chaplains at posts and stations, 17,444 with an attendance total of 1,626,245; marriages performed, 881; baptisms, 1,591; funerals, 1,872. Services for Army personnel by civilian ministers, 3,596 with an attendance total of 203,458. Services by Reserve chaplains on active duty in Civilian Conservation Corps camps, 41,497 with an attendance total of 3,570,475; marriages performed, 100; baptisms, 75; funerals, 196.

Finance Department. — Disbursements: $724,580,601.94 in 2,352,938 vouchers. Invoices: 2,493,317 providing a means of saving $1,055,301.27 through discounts taken; total thus saved since July 1, 1919, $6,313,228.76. Savings accounts: 5,014 active accounts on June 30, 1935 and the amount deposited by soldiers during the year was $847,762.99 on which interest was paid in the amount of $40,032. From June 30, 1873 to June 30, 1935, the sum of $73,894,147.90 has been deposited in soldier accounts on which $3,838,492.15 interest has been earned for the depositors. Largest soldier deposit of record, $23,600. There was disbursed by the Finance Department to the Civilian Conservation Corps a total of $386,810,606.82 during the fiscal year.

Signal Corps.—The Washington-Alaska Military Cable and Telegraph System handled a total of 9,543,332 words in commercial messages and 4,045,106 words in Government messages. Receipts from commercial traffic amounted to $300,374.22. There were maintained 169 government-owned telephone switchboards with 36,579 telephones connected thereto. Eighteen switchboards with 1,929 telephones were rented from commercial companies. The Army Radio Net handled a total of 30,076,794 words.

Medical Department.—Cared for sick in hospitals the equivalent of 2,868,951 patient days.

Professional work done at Army stations each day of the year—

	Hospital Patients	Quarters Patients	Outpatient Treatments	Physical Examinations	Vaccinations
Average per day....	7,860.2	430.3	6,559.9	1,574.4	1,485.8

Admission to sick report for the year for all causes was 605 per thousand men, the second lowest rate for any year of the past decade.

Adjutant General's Department.—Army Extension Courses enrolled a total of 88,909 students, divided as follows: 50,503 Reserve Officers; 26,567 National Guard; 1,260 Enlisted Reservists; 3,886 C.M.T.C. trainees; 4,305 civilians; 1,103 Regular Army Officers; 1,285 Regular Army Enlisted Men. There were 165,965 subcourses completed requiring 2,373,671 hours of instruction with an average cost per student of $1.40. Army Library Service maintained 151 libraries containing from 500 to 40,000 volumes each. There was a recorded circulation last year of approximately 1,500,000 books. Motion Picture Service provided 20,812 programs to audiences totaling 7,261,144. A total of $263,405.96 was spent on theater construction and improvements and from profits on operation, $94,334.34 was returned for division among 67 army posts. Hostess Service maintained 12 permanent and 10 temporary hostesses as aids in the conduct of various social activities. World War Records included nearly 2,000,000 additional documents as new receipts for filing. During the year approximately 1,874,500 documents were removed from organizational files and, of these, 1,000,000 were refiled as personnel records and the remainder disposed of as duplicates or unofficial in character. At the close of the year there were in organizational files approximately 114,025,400 documents in which 224,000 searches were conducted over a twelve-month period. Fingerprint identifications to the number of 50,397 were received during the year, 711 for officers and 49,686 for enlisted men. There is now established a fingerprint file totaling 5,506,538 of which 389,717 were made prior to the World War, 3,961,467 during that war, and 1,155,354 since. Through the use of these prints, 198 individuals were identified during the year as deserters, dishonorably discharged men, or other delinquents. In September, two army experts in this section, Samuel C. Sacco and Oliver H. P. Clerk, working in conjunction with the Veterans' Administration Bureau, were able to identify as ex-service men 91 of the bodies left in the wake of the Florida hurricane. Correspondence during the year aggregated a total of 2,204,968 pieces of mail. The largest number received for a single month was 118,130 for January and the maximum for a single day was 23,871 on January 30, 1935. The Information Section received 45,569 telephone inquiries and 11,815 personal inquiries concerning 37,656 individuals and 20,728 of a varied nature.

Decoration	Awards During Fiscal Year		Total to June 30, 1935
	Medal	Oak Leaf Cluster	
Congressional Medal of Honor	1	....	1,824
Distinguished Service Cross	59	4	6,446
Distinguished Service Medal	1	....	2,134
Silver Star	1,099	161	9,718
Purple Heart	6,138	500	56,177
Soldier's Medal	19	....	150
Distinguished Flying Cross	5	....	72
French Fourragere	170	....	2,427

Service Medal	Awards During Fiscal Year	Total to June 30, 1935
Civil War Campaign	167	1,895
Indian Campaign	16	2,202
Spanish Campaign	250	9,910
Philippines Congressional	56	6,657
Spanish War Service	676	25,365
Philippine Campaign	436	37,395
Army of Cuban Occupation	289	6,627
Porto Rican Occupation	129	1,351
China Campaign	22	1,843
Army of Cuban Pacification	9	6,429
Mexican Service	40	16,874
Mexican Border Service	395	40,239
Victory Medal	5,518	1,298,565

NOTE: For the newly authorized Yangtze Service medal (Navy), 442 Army applications were filed during the year.

ADMINISTRATION OF VETERANS AFFAIRS

BY FRANK T. HINES

ADMINISTRATOR, VETERANS ADMINISTRATION

ORGANIZATION

Administrator	Frank T. Hines
Executive Assistant to the Administrator	Adelbert D. Hiller
Assistant Administrator	Harold W. Breining
Assistant Administrator	Omer W. Clark
Assistant Administrator	George E. Ijams
Solicitor	James T. Brady

Public No. 536, 71st Congress, approved July 3, 1930, authorized the President by executive order to consolidate and coordinate governmental agencies affecting war veterans into an establishment to be known as the Veterans' Administration. On July 21, 1930, the President issued an executive order authorizing the consolidation of the United States Veterans' Bureau, the National Home for Disabled Volunteer Soldiers, and the Bureau of Pensions. This consolidation resulted in a reorganization of the functional activities to the end that closely related services were grouped under the supervision of one responsible head designated as an assistant administrator.

As of June 30, 1935, the organization of the Veterans' Administration was divided into five major units: office of the administrator; office of the assistant administrator in charge of finance; office of the assistant administrator in charge of pensions and compensation; office of the assistant administrator in charge of medical and domiciliary care and treatment, construction and supplies, and the office of the solicitor in charge of legal activities.

PENSIONS AND COMPENSATION

War of 1812.—Although over 120 years have elapsed since the close of the War of 1812, four persons were receiving pensions as of June 30, 1935 on account of service rendered by veterans of this war. These pensioners were three widows and one daughter. A comparison of the number of pensioners carried on the rolls for benefits provided for dependents of veterans of the War of 1812, as of June 30, 1934 and 1935, shows a decrease of three beneficiaries during that fiscal period.

Mexican War.—As of June 30, 1935, there were 294 widows of Mexican War veterans on the pension rolls. These figures show a decrease of 57 pensioners during the fiscal period ended June 30, 1935.

Civil War.—On June 30, 1935, the dependents of 100,290 deceased veterans of the Civil War were carried on the pension roll. This number represents a decrease of 12,287 during the fiscal year 1935. Of the 100,290 deceased veterans whose dependents were carried on the rolls as of June 30, 1935, 73,809 widows were being paid $40 per month as provided by law for widows of the attained age of 70 years; 3,026 widows were receiving $50 per month as authorized by law for widows who were wives of veterans during their service in this war; 331 widows were being paid pensions under the general laws because of the death of the veteran from causes due to military service; the dependents of 14,563 deceased veterans were receiving pensions averaging $30 per month under the act of May 1, 1920, and the dependents of 8,561 deceased veterans were in receipt of pensions averaging approximately $37 under special acts of Congress.

Out of the total of 2,213,365 that served in the Civil War, which terminated 70 years ago, pensions were being paid to 13,273 veterans on June 30, 1935. This represents a decrease of 5,182 in the number of veterans carried on the rolls as of June 30, 1934. Of those on the pension roll at the close of the fiscal year ending June 30, 1935, 5,912 were in receipt of $75 per month and 11 were in receipt of $85 per month, as authorized by the act of June 9, 1930, while 7,196 were being paid $100 per month and 7, by reason of being helpless or blind or so nearly helpless or blind as to require the regular aid and attendance of another person, were receiving $110 per month. The balance of the pension roll consisted of 26 veterans who were in receipt of pensions under general laws for service connected disabilities and 121 who had been awarded pensions by special acts of Congress.

Indian Wars.—On account of service in the several Indian Wars, the widows and/or dependents of 4,745 deceased veterans were in receipt of pensions. During the fiscal year 1935, there was a net increase of 139 deceased veterans of the Indian Wars whose dependents were entitled to pensions.

On account of service during the Indian Wars, 3,899 veterans were in receipt of pensions as of June 30, 1935. This number represents a net decrease of 471 in the number of living veterans carried on the rolls as compared with the number as of June 30, 1934.

Spanish American War.—As of June 30, 1935, there were 39,045 deceased veterans of the Spanish American War whose dependents were carried on the pension rolls as compared with 35,022 on June 30, 1934.

As of June 30, 1935, there were 167,892 veterans of the Spanish American War carried on the rolls. This figure represents a decrease of 4,831 as compared with the number carried on the rolls as of June 30, 1934. Of the

167,892 veterans as of June 30, 1935, 164,415 were receiving pension payments for disabilities of a non-service origin or for age, and 3,477 for conditions determined to be the result of service. On June 30, 1935, the average monthly value of all pension awards for non-service connected disabilities or age was $31.91 and for service connected disabilities was $50.92.

An analysis of the service-connected group by type of major disability indicates that 4% are suffering from tuberculosis, 8% from neuropsychiatric conditions, and 88% are classified as general medical cases. In the non-service connected group, approximately 97% of the total are receiving pensions because of disabilities and 3% by reason of age. A study of the ages of all Spanish American War veterans shows that 77% are between 55 and 65 years.

Peace Time.—As of June 30, 1935, pensions were being paid to the dependents of 7,240 soldiers who died from diseases or injuries which were determined to have originated in line of duty during peace-time service in the armed forces of the United States. This number represents an increase of 1,402 cases during the fiscal year ended June 30, 1935.

During the fiscal year ended June 30, 1935, the number of pensioners carried on the rolls, who served in the armed forces of the United States during peace time, increased from 29,484 to 32,124. The average annual reward for this type of beneficiary increased from $219.76 in 1934 to $223.51 during the fiscal year 1935. The principal source of increase in this group, aside from favorable action in approximately 48% of new claims filed, has been the reclassification of persons formerly included in the Spanish American War and World War groups as war time service connected, on account of stricter application of the dates covering hostilities and proof of the inception of diseases outside of war-time service.

WORLD WAR PENSIONS AND COMPENSATION

Dependents (Service-connected).—On June 30, 1935, compensation was being paid to the widows, children, and dependent parents of 99,394 veterans of the World War who died in service or as a result of diseases or injuries incurred directly or presumptively in service during the World War. This form of benefit was being paid as of the above date to 26,456 widows, 39,157 children, and 85,975 parents. Death claims have been paid to June 30, 1935 to the dependents of 134,159 veterans who died as the result of service connected disabilities.

An analysis of the principal causes of the death of veterans who died as a result of service and whose dependents were in receipt of benefits as of June 30, 1935, shows that 31% died of tuberculosis, 28% from injuries, principally wounds in action, and 25% from diseases of the respiratory system other than tuberculosis. A further study of the awards for this benefit indicates that 42% of the deaths on account of which payments were being made on June 30, 1935 occurred prior to July 2, 1921, the official ending date of the World War.

At the close of the fiscal year 1935, service connected death compensation payments were being made in 6,820 cases where the dependents resided in the United States possessions and in foreign countries, and the monthly value of these awards was $180,011.00.

Dependents (Non-service connected).—On June 28, 1934, Public No. 484, 73rd Congress, became a law. This law provided for the payment of compensation to the dependents of deceased veterans who died from a non-service connected disability, provided further that the veteran before his death was rated or was entitled to a rating of 30% or more for a disability that was incurred in or was aggravated by service during the period of the World War. At the close of the fiscal year 1935, compensation for this type of benefit was being paid the dependents of 1,970 deceased veterans. An analysis of the above number of cases shows that compensation was being paid to 1,741 widows and 3,248 children.

Veterans (Service-connected disabilities).—On June 30, 1935, compensation was being paid to 336,876 veterans suffering from disabilities directly or presumptively connected with service during the World War. This number represents a net increase of 4,660 veterans carried on the rolls during the fiscal year 1935.

An analysis of the major disabilities for which compensation was being paid as of June 30, 1935 showed that neuropsychiatric diseases were the disabling cause in 19.01% of the awards, tuberculosis in 17.56% and general medical and surgical conditions in 63.43%. The average monthly payments by types as of June 30, 1935 were as follows: neuropsychiatric, $50.91; tuberculosis, $54.15, and general medical and surgical conditions, $33.00.

The average payment for all types of disabilities was $40.12. Additional compensation was being paid on account of dependents in 51,091 cases in which the veteran was rated on a temporary basis, at an average of $7.69 per case per month. These dependents include 46,807 wives, 97,378 children and 3,316 parents. On June 30, 1935 compensation was being paid to 2,498 disabled veterans who resided outside the continental limits of the United States.

Veterans (Non-service-connected).—During the fiscal year June 30, 1935, the number on the rolls for this type of benefit increased from 31,183 to 33,604. The monthly payment for non-service connected benefits is $30, unless this amount was reduced to $6 on account of receiving institutional care at government expense and having no dependents. Of those on the roll, 227 or .74% are over 68 years of age; 549 or 1.80% are over 62 years of age, and 1,197 or 3.91% are over 55 years of age. There is an income limitation in this group, no single person having an income of $1,000 or more per annum, and no person with dependents having an income of $2,500 or more being eligible.

Retirement of Emergency Officers.—As of June 30, 1935, there were 1,691 officers of the World War on the retirement roll. This number represents an increase of 108 during the fiscal year 1935. Of the 1,691 officers on the active roll, 1,671 were receiving full payment. Of the 20 remaining cases there was a partial forfeiture in six cases and a complete forfeiture in 13 cases, due to the application of Public No. 212, 73rd Congress, which provided that in case the salary of any retired officer (except those with disabilities incurred in combat with the enemy of the United States) in the employ of the Federal Government together with retirement pay exceeds $3,000 per annum, the retirement pay should be reduced or discontinued to the extent to which the sum of the two should equal $3,000. In the other case, there was a complete surrender of retirement pay because of active duty in the National Guard. The average monthly payment for retired emergency officers as of June 30, 1935, was $135.98.

HOSPITALIZATION

Patients under Treatment.—As of June 30, 1935, there were 42,984 patients remaining in hospitals whose treatment was authorized by the Veterans' Administration. Of this number 42,599 were veterans who had served in the armed forces of the United States. The veterans remaining in hospitals were distributed by wars as follows: World War, 38,033; Spanish American War, 2,369; Civil War, 117; all other wars, expeditions and occupations, 70; peace time service, 2,010. Of the total number of veterans receiving hospital treatment as of June 30, 1935, 12,046 were being treated for diseases or injuries determined to be of service origin. Included in the 42,599 veterans are 237 females and 3,822 colored beneficiaries. Of the total number of patients remaining in hospitals as of the close of the fiscal period ended June 30, 1935, 12% were under treatment for tuberculosis, 55% for neuropsychiatric diseases, and 33% for general medical or surgical conditions. This distribution represents a marked change in the character of the patient population since June 30, 1923, at which time 41% were classed as tubercular, 39% as neuropsychiatric, and 20% as general medical or surgical.

Admissions.—During the period March 3, 1919, when the acquisition of government hospital facilities was first authorized for treatment of veterans of the World War, to June 30,

TOTAL DISBURSEMENTS TO LIVING AND DECEASED VETERANS

The following table shows the number of living and deceased veterans on the rolls as of June 30, 1935, and the total disbursements during the fiscal year 1935, by wars:

Wars	1935	
	Number on roll June 30	Disbursements during fiscal year
Total:	838,937	$374,407,169.57
Living veterans	585,955	278,006,898.15
Deceased veterans	252,982	96,400,271.42
War of 1812—deceased veterans	4	2,681.00
Mexican War—deceased veterans	294	180,316.20
Indian Wars:	8,644	3,852,566.00
Living veterans	3,899	2,138,494.97
Deceased veterans	4,745	1,714,071.03
Civil War:	113,563	63,529,582.72
Living veterans	13,273	16,144,255.36
Deceased veterans	100,290	47,385,327.36
Spanish-American War:	203,547	77,753,295.20
Living veterans	164,502	66,252,826.14
Deceased veterans	39,045	11,500,469.06
Peace Time:	39,364	9,237,599.82
Living veterans	32,124	7,341,495.86
Deceased veterans	7,240	1,896,103.96
World War:	473,521	219,851,128.63
Living veterans and Emergency Officers	372,157	186,129,825.82
Deceased veterans	101,364	33,721,302.81

1935, there have been 1,448,421 admissions to hospitals. During the fiscal period ended June 30, 1935, 106,897 were admitted to hospitals. The admissions for this period represent an increase of 67% over the fiscal year 1934; however, they were 28% less than the peak of 148,662 admissions effected during the fiscal year 1932.

Since June 7, 1924, when hospitalization was first authorized for the veterans of all wars without regard to the origin of their disabilities, 677,394 or 66% of all admissions have been for the treatment of disabilities not connected with service. Approximately 88% of the admissions made during the fiscal year 1935 were on account of non-service-connected disabilities.

An analysis of the type of hospital admissions during the fiscal year 1935 shows that 48,834, or 46%, of the total were first admissions; 56,108, or 52%, were readmissions, and 1,955, or 2%, were admitted by transfer from other facilities. During the fiscal period ended June 30, 1935, 10,387 admissions were authorized for the observation or treatment of pulmonary tuberculosis; 7,539 for psychotic or mental diseases; 9,680 for other neurological disorders, and 79,291 for general medical or surgical conditions.

Patient Turnover.—During the fiscal year 1935, the patient turnover in all types of Veterans' Administration hospitals was approximately once every 5½ months. Based upon the experience of this year, hospitals devoted principally to the treatment of neuropsychiatric diseases have a complete patient turnover every 2½ years. The relatively low turnover rate experienced for this type of case is due to the long continuous hospital treatment usually required and a low mortality rate. During this fiscal year the turnover rate for hospitals utilized primarily for the treatment of tuberculosis was once every five months. The attainment of a low rate of turnover is highly desirable among the veterans suffering from tuberculosis, in so much as an arrest of this disease is seldom obtained in less than one year of extensive care, treatment and exercise. The turnover rate for this fiscal year in hospitals treating a majority of general medical and surgical patients was approximately once every two months.

Discharges.—During the fiscal year 1935, 153,018 patients were under hospitalization. Of this number 145,072 were veterans. Of the total number of patients discharged during this year, 75% were under treatment for general medical and surgical conditions, 16% for neuropsychiatric diseases, and 9% for pulmonary tuberculosis.

Deaths.—Deaths in hospitals during the fiscal year 1935 totaled 7,253 or 7% of the discharges, as compared with 5,334 or 9% of the discharges during the fiscal year 1934. An analysis of the number of deaths occurring during the fiscal year 1935 shows that 4,340 occurred among patients under treatment for general medical and surgical conditions, 1,855 for pulmonary tuberculosis, and 1,058 for neuropsychiatric diseases. Of the 4,340 deaths that occurred among the general medical and surgical patients, more than 34% were caused by diseases of the circulatory system including organic heart diseases, and approximately 29% by malignant tumors and diseases of the digestive system.

DOMICILIARY CARE

On June 30, 1935, the veteran population reported as present in the domiciliary facilities under the jurisdiction of the Veterans' Administration totaled 9,323, as compared with 9,404 on June 30, 1934, a decrease of 81 during the fiscal period. The number present in domiciliary status on June 30, 1935 was divided as follows: white males, 8,250; white females, 37; and colored, 1,036.

The approximate age of veterans of each of the major wars who were present in domiciliary status as of June 30, 1935 was as follows: Civil War, 92; Spanish American War, 61; World War, 43.

The percentage distribution of the membership by wars as of June 30, 1935 was as follows: Civil War, 0.39; Spanish American War, 13.79; World War, 80.08; other wars, 0.44; peace time, 5.30.

In conformity with the act of August 27, 1888 (U.S.C., title 24, sec. 134), the Federal Government is required to reimburse State or Territorial homes for disabled volunteer soldiers at the rate of $120 per year for each person domiciled therein who is eligible for similar care in facilities controlled by the Veterans' Administration. During this year an average of 4,160 such persons were cared for, thereby creating an obligation of approximately $499,200 on the part of the Federal Government.

PHYSICAL EXAMINATIONS AND OUT-PATIENT TREATMENT

During the fiscal year ended June 30, 1935, the field facilities of the Veterans' Administration made a total of 885,349 physical examinations for out-patient purposes, an increase of 325,795 over the number accomplished during the preceding fiscal period. Claimants and beneficiaries were physically examined for purposes of disability compensation, pensions, Government insurance, and to determine the need for medical treatment. Treatments furnished during the fiscal year 1935 totaled 804,406 as compared with 575,816 given during the preceding fiscal year, an increase of 228,590. Of the number furnished during this year, 744,035 or approximately 92% were medical and 60,371 or 8% were dental.

DENTAL RELIEF

The value of dental service rendered in clinics of the Veterans' Administration during the fiscal year 1935, computed on a fee basis, was $1,674,920, as compared with $1,509,228 for the fiscal year 1934. Of the total value of dental service rendered in dental clinics during the fiscal year 1935, $505,279 was in connection with the treatment of service-connected disabilities and $1,169,641 as auxiliary to the treatment of non-service connected disabilities for which beneficiaries were receiving domiciliary care or hospitalization. The number of beneficiaries that received dental service in clinics during the year totaled 58,629. Of these beneficiaries, 55,830 were in receipt of hospitalization or domiciliary care at the time the service was rendered.

ADJUSTED COMPENSATION

As of June 30, 1935, a total of 3,732,485 certificates with a maturity value of $3,680,943,293 had been issued, and of this number, 203,784 had matured on account of death and $202,755,857 had been awarded to the designated beneficiaries, leaving 3,-

528,701 certificates in force with a maturity value of $3,478,187,436.

As of the close of the fiscal year 1935, 2,904,525 certificates had been pledged and were held by the Veterans' Administration for loans and interest aggregating $1,679,669,883.97. In addition, it was estimated that loans made by banks to the value of $60,000,000 were outstanding.

INSURANCE

Government Life (Converted) Insurance.—At the close of the fiscal year 1935, there were 590,744 Government Life (converted) insurance policies in force, aggregating $2,605,011,255, as compared with 598,226 policies in force aggregating $2,666,733,150 of insurance at the close of the preceding fiscal year. During the fiscal year 1935, 16,952 new policies were issued which number represented an increase of 3,208 over the fiscal year 1934. The policies surrendered for cash during the fiscal year 1935 totaled 8,696, as compared with 12,059 during the fiscal year 1934, a decrease of 3,363.

Term and Automatic Insurance.—The disbursements for term and automatic insurance during the fiscal year 1935 totaled $100,355,246 and to date $1,824,407,684 which as of June 30, 1935 was $1,370,282,810 in excess of the premiums received on this form of insurance. On June 30, 1935, monthly installments of term insurance were being paid to 12,616 permanently and totally disabled veterans and to the beneficiaries of 125,634 deceased veterans. Permanent and total disability payments averaging $47.58 per month are being made on insurance valued at $104,401,349. An analysis of the disabilities for which term insurance is being paid shows that neuropsychiatric diseases are the disabling cause in 47% of the awards, tuberculosis in 27% and general medical and surgical conditions in 26%. Payments of automatic insurance (provided for those who were permanently and totally disabled or who died within 120 days after entering service and before making application for term insurance) are being made to 300 permanently and totally disabled veterans and on behalf of the beneficiaries of 6,892 deceased veterans.

APPROPRIATIONS AND TRUST FUNDS FOR VETERANS' RELIEF

During the fiscal year 1935, the total disbursements made by the Veterans' Administration for all purposes incident to veterans' relief was $609,916,432.81. This amount divided by appropriation and trust funds is as follows:

Appropriation	Disbursements
Administration, medical, hospital and domiciliary services	$ 77,675,907.84
Printing and binding	130,770.89
Hospital and domiciliary facilities and services Veterans' Administration	1,416,735.22
Army and Navy pensions and military and naval compensation	374,425,539.57[1]
Military and Naval insurance	100,355,245.92
Adjusted Service Certificate fund	25,562,460.85
Adjusted service and dependent pay	1,361,408.31
Vocational rehabilitation	−9,192.36[3]
Military and Naval family allowance	−1,046.79[3]
National Industrial Recovery, Veterans' Administration 1933-35	1,486,256.15
Miscellaneous	15,507.22
Trust Funds	
United States Government life insurance fund	27,172,039.14[2]
Army allotments	351.35
General post fund	324,142.95
Horatio Ward fund	306.55
Total	$609,916,432.81

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[1] Includes Emergency Officers' retirement pay and $18,370.00 used for yellow fever experiment pensions.

[2] Includes incumbrances.

[3] Appropriation discontinued; present disbursement is from collections and refunds; balances with purposive disbursements as a negative amount.

WATERWAYS AND HARBORS

By E. M. Markham

Major General, U. S. Army; Chief of Engineers, War Department

INLAND WATERWAYS

Location and Description.—The principal systems are the Great Lakes, together with the New York State Barge Canal and the Hudson River, the Mississippi system, including the Mississippi, Missouri, Ohio, the Illinois River to Chicago, and their important tributaries; the rivers of the Atlantic Coast including the intracoastal waterway system connecting these rivers; the rivers of the Gulf Coast, an inland waterway extending from Apalachicola River in Florida *via* New Orleans down the Texas Coast to Corpus Christi, connecting with southern Alabama, Mississippi, Texas and Louisiana waterways, and with the Mississippi River System; the San Joaquin-Sacramento system in California; the Columbia system in the northwest and the smaller Pacific Coast rivers. These are improved, or in course of improvement to provide navigation facilities commensurate with their commercial importance. The completion of this work has been greatly accelerated by the emergency construction program of the Federal Government.

Channel Depths.—The Great Lakes, which are really inland waterway systems, have natural deep water navigation except in the connecting channels. From Lake Superior to Lake Ontario, these connecting channels have been artificially deepened so that the available draft is, for the most part, 24 feet. The more important harbours have depths of from 20 to 24 feet. The New York State Barge Canal has a depth of 12 feet, and deepening to 14 feet of the section from the Hudson River to Oswego is now in progress. The various sections of the intracoastal waterway system between Trenton on the Delaware River and Wilmington, N. C. on the Cape Fear River have been completed to project depths of not less than 12 feet, while the sections between Wilmington and Miami except for about five miles, where work is in progress, have been improved to project depths of 7, 8, and 10 feet. Deepening of the Chesapeake and Delaware Canal to 27 feet has been started. Along the Gulf Coast, projects have been adopted to provide channels 9 and 10 feet deep between Apalachicola River and Corpus Christi, Texas, and a depth of nine feet is available from the Mississippi River to Galveston. The Mississippi River has a 9-foot depth from Baton Rouge to St. Louis, with six feet thence to Minneapolis, and work is actively in progress by the construction of locks and dams to secure a 9-foot channel between St. Louis and Minneapolis as a part of the emergency construction program. The Illinois waterway now has an available 9-foot channel, from the Mississippi River to Chicago and the Sacramento River a 10-foot channel as far as the city of Sacramento.

Status of Waterway Transportation.—Inland waterway transportation, after a widespread decline coincident with the extensive development of railroad facilities throughout the country, has in the past 12 years shown a pronounced increase except during the period of acute depression. Even then, the loss in tonnage was small in comparison with other methods of transportation, and a constant increase in total tonnage has occurred each year since the low year of 1932. This increase was pronounced in 1934, and indicates a realization on the part of shipping interests that with suitable conditions as to the character of traffic, origin, and destination exist with respect to waterways, suitable channels, and modern carriers and terminals, water transportation is inherently cheaper than any other form.

Improvement of New Waterway Projects.—At the close of the fiscal year 1935, there were 973 authorized river and harbor projects in force. Active operations during the fiscal year were carried out on 358 of these projects and new work, as a part of the emergency construction program was undertaken or in progress on 99 projects. Total funds made available to the Army Engineers by the Federal Emergency Administration of Public Works for application to river and harbor and flood control projects to Jan. 1, 1936, amounted to $347,526,086. Also, up to Jan. 1, 1936, a total of $131,686,169 had been allocated under the Emergency Relief Appropriation Act of 1935, for river and harbor and flood control works. These funds were in addition to appropriations of $60,135,926 made by Congress for the maintenance of existing river and harbor works and for flood control on the Mississippi and Sacramento rivers. The expenditure of these funds has provided direct and indirect employment of not less than 125,000 persons and has resulted in a substantial contribution to the relief of unemployment as well as materially advancing the development of our national waterways for navigation and the control of floods.

Great Lakes.—The improvement of Great Lakes harbors and channels has been vigorously prosecuted during the year under the Public Works program, funds totaling $23,103,195 having been made available therefor. The deepening of the Great Lakes connecting channels to afford vessel drafts of not less than 24 feet at low water datum for downbound vessels was practically completed; increased navigation facilities were completed during the year at Agate Bay, Ashland, Marquette, and Lorain. Work was continued at Duluth-Superior, Calumet, Indiana, Green Bay, Toledo, Sandusky, Huron, Cleveland, Ogdensburg, Fairport, Ashtabula, Conneaut, and Buffalo Harbors, Niagara River, and the connecting channels of the Great Lakes comprising the St. Marys, St. Clair, and Detroit rivers, channels in Lake St. Clair, and channel between Mackinac and Round islands. Under allotments from the Emergency Relief Appropriation Act of 1935, work was started in the fall to provide increased navigation facilities in the Keweenaw Waterway and at Kewaunee, Two Rivers, Kenosha, and Rochester harbors, Rouge River, and Black Rock Channel and in Tonawanda Harbor.

Intracoastal Waterways.—Funds allotted by the Public Works Administration have provided means for active prosecution of projects for a continuous protected waterway along the Atlantic coast from Trenton on the Delaware River to Miami, Fla., a distance of 1,435 miles. The completion of this waterway is now definitely in sight, all that remains being the excavation of a few miles of deep land cut in South Carolina in the section between Little River and Winyah Bay. The section along the Florida coast from St. Johns River to Miami, eight feet in depth, was completed during the past year. Extension of the protected waterway southerly from Miami along the east coast of Florida 63 miles to Key Largo was approved by Congress in the River and Harbor Act of August 30, 1935. At the present time vessels of a draft not suitable for long sea voyages have a continuous protected route along the Atlantic coast from the Delaware River to Miami, except in the run from the Cape Fear River to Winyah Bay, a distance of less than 100 miles. The project depths in the waterway vary from 12 to 7 feet—12 feet being available from Delaware River to Wilmington, N. C., and thence 7 to 10 feet south to St. Johns River, Fla. Funds in the sum of $5,000,000 have been made available and work inaugurated on construction of a Ship Canal 30 feet in depth across Florida from Jacksonville to Port Inglis on the Gulf of Mexico. (see ''Structural Engineering'', p. 622) Along the Gulf coast an inland protected waterway for vessels of moderate draft has been completed, or planned, extending from Apalachicola River in Florida to Corpus Christi in Texas, a total distance of 951 miles. The depths under the several projects, embraced in this Gulf coast waterway are six feet from Apalachicola River to St. Andrews Bay with a 9-foot depth planned and approved; nine feet approved for construction from West Bay to Choctawhatchee Bay; seven and a half feet from Choctawhatchee Bay to Pensacola Bay; nine feet from Pensacola Bay to Mobile Bay; and 9 feet to 10 feet from Mobile Bay to New Orleans. Westward from the Mississippi at New Orleans, an inland waterway having a depth of nine feet has been fully completed to the Galveston-Brazoria County line 17 miles southwestward from Galveston Harbor. Between New Orleans and Morgan City, the waterway follows two routes—the northerly route being *via* the Mississippi River to Plaquemine, La., and thence south to Morgan City, and the southern and more direct route being *via* Harvey Lock, Lockport and Houma to Morgan City. The total length of the completed waterway *via* Plaquemine is 447 miles, and *via* the more direct Harvey Lock route, 373 miles. Southwesterly from the Galveston-Brazoria County line to Corpus Christi, about 200 miles, the necessary rights of way for extension of the waterway are being secured by local interests as required by Congress in authorizing the project.

Mississippi River System.—The Mississippi River projects provide for nine-foot navigation from Baton Rouge to St. Paul and Minneapolis. Ocean shipping goes to Baton Rouge. The accelerated Public Works program has greatly increased the rate of progress on the canalization of the upper Mississippi River between the Missouri River and St. Paul and Minneapolis. Of the 26 locks and dams which will be required for the completion of this canalization, 18 locks and five dams have been completed and seven locks and 11 dams are now under construction. The 9-foot project as a whole was about 40 per cent completed at the end of December, 1935. The 9-foot project on the Tennessee River was continued throughout the year with the construction of a lock at the Joe Wheeler Dam where the dam is being built by the Tennessee Valley Authority. The improvement of the Missouri River to secure a navigation channel six feet deep to Kansas City is practically completed and the channel has been declared open to traffic. Under allotments totaling $47,000,000 from Emergency Appropriations the project has been advanced to St. Joseph and work is under way for its continuance to Sioux City. To provide an additional water supply during the low water season, a large hydraulic fill earth dam about 250 high high, which when completed will be the largest earth dam in the world, is under construction at Fort Peck, Mont., with a reservoir capacity of 19 million acre feet. New locks and dams have been constructed at London and Marmet and work is in progress on locks and dams at Winfield, W. Va., on the Kanawha River and at Gallipolis, Ohio, on the Ohio River, to replace old locks and dams Nos. 2-11 on the Kanawha River and Nos. 24-26 on the Ohio River. A new lock and dam is being constructed at Montgomery Island, on the Ohio River 32 miles below Pittsburgh which when completed will replace old existing locks and dams Nos. 4, 5, and 6. The Emsworth Dam near Pittsburgh is also being raised to afford better navigation facilities. New locks and Dams Nos. 2 and 3 have been practically completed on the Allegheny River. Under Emergency Relief funds existing, dam No. 8 is being raised and a new lock and dam No. 9 is being constructed to extend 9-foot navigation to East Brady, Pa., 72 miles above Pittsburgh. Under the Provisions of the National Industrial Recovery Act a system of 14 flood control reservoirs is being constructed by the Army Engineers in the Muskingum Valley in Eastern Ohio. The work is being carried out under an allotment of $22,090,000 from Public Works funds. In addition the Muskingum Watershed Conservancy District has agreed to make available or expend an additional $12,000,000 for related work on the project. (see also "Structural Engineering," p. 622)

Columbia River System.—The Columbia River system has been improved to provide ocean going vessels access to Portland, Ore., and to Vancouver, Wash. As a part of the emergency construction program, a combination navigation and power dam is now under construction at Bonneville, Ore., about 40 miles east of Portland. This dam will ultimately develop 516,000 kilowatts. It is provided with a lock with a minimum depth over the sills of 27 feet, which will permit oceangoing vessels to ascend the Columbia River to the Dalles and will materially increase the facilities afforded to navigation on this river. (see also ''Structural Engineering'' p. 622).

Ports.—The maximum depth that has been provided in harbor channels is 40 feet at mean low water except in the channel through the outer bar at San Francisco, where a depth of 50 feet has been authorized to afford safe navigation to deep draft vessels in the heavy swells there encountered. A depth of 40 feet has been afforded at New York Harbor and other ports of primary importance to the Navy. While more than 90 per cent of the world's shipping draws less than 30 feet, to afford full, free, and unimpeded navigation, a depth of 35 feet is necessary and has been provided at the principal harbors, and such a depth is advisable at any port engaged in ocean shipping where it can be provided at a cost commensurate with the value of commerce.

New Port Projects.—The emergency construction program has accelerated the provision of increased depths and better navigation facilities at a number of major ports. Anchorage facilities at Boston Harbor have been increased to a depth of 40 feet. Material improvements have been made in the interior and connecting channels in New York Harbor. Additional anchorage areas have been provided in the Delaware River between Philadelphia and the sea, and the 25-foot channel between Philadelphia and Trenton is well advanced. The deepening of the main entrance channel at Miami, Fla., to 30 feet for the width of 200 feet has been in progress and is nearing completion. The entrance channel at San Juan, Puerto Rico has been enlarged and deepened to 38 feet.

On the Gulf Coast, Tampa, Fla., and Pensacola, Fla., Panama City, Fla., Mobile, Ala., Port Arthur, Beaumont, Orange, and Texas City, Tex., have been provided with improved facilities. The Houston ship-channel, Freeport Harbor and Port Aransas channels have been or are being deepened to meet the demands of an increasing traffic at these ports. A 25-foot jettied channel has been provided at Brazos Island Harbor, which upon completion of the interior channels will provide access to the cities of Port Isabel and Brownsville, Texas. On the Pacific Coast the entrance channel at San Diego Harbor has been deepened to 40 feet and material improvements have been made at Los Angeles, San Francisco, Stockton, Olympia, Tacoma and Seattle. Increased navigation facilities have also been provided at Honolulu, Port Allen and Kaunakakai in the Hawaiian Islands.

Surveys.—The survey of the principal streams of the United States, some 200 in number, has been actively prosecuted by the Army Engineers with a view to the formulation of general plans for their most effective improvement for the purposes of navigation and the prosecution of such improvement in combination with the most efficient development of the potential water power, to control floods, and for the needs of irrigation. A vast amount of data is being secured in this survey which will be extremely valuable in the future improvement of our inland streams.

MISSISSIPPI RIVER FLOOD CONTROL

Seven years and a half after the approval of the law enacted by Congress on May 15, 1928 for flood control in the alluvial valley of the Mississippi River, finds remarkable progress along the river from Cape Girardeau, Missouri, to New Oreans. Of the $325,000,000 authorized for the project $272,000,000 or 84% of the authorization has been appropriated and expended or obligated.

The flood control plan set forth in the adopted project proposes to protect the alluvial valley of the lower Mississippi River from Cape Girardeau to the Gulf of Mexico, consisting of the St. Francis, the Yazoo, the Tensas (composed of the Boeuf and Macon Valleys), and the Atchafalaya Basins, as well as the alluvial lands around Lake Pontchartrain against the maximum flood predicted as possible. This is being done by raising existing levees (with certain exceptions) about three feet and strengthening them greatly. North of the Arkansas River, floods will be confined generally to the main leveed channel but a limited area in the St. Francis Basin, in southeast Missouri and the City of Cairo, Illinois, is to be given additional safety by a floodway between Birds Point and New Madrid, Missouri, which will, during extraordinary floods only, become an adjunct of the main channel and thereby widen the river and hold down stages. It is contemplated that south of the Arkansas River, flood waters in excess of what the leveed channel of the main river will carry safely will find their way to the Gulf over the habitual pathways in the basins west of the river. Protecting levees are proposed on the edges of these pathways to restrain the waters within them and to protect the good lands outside. These protecting levees are to be located so as to reclaim the maximum amount of land that is economically justified. New Orleans has been given additional protection by a controlled spillway at Bonnet Carre emptying into Lake Pontchartrain from the river 33 miles above the city. In addition to the levee work, the adopted project includes the construction of revetments and contraction works to prevent bank caving and to stabilize the channel in the interest of navigation.

Of the estimated 650,000,000 cubic yards of earth required to be moved to complete the adopted project, over 535,000,000 cubic yards have been placed in the levees being constructed in accordance with the plan. The yardage already placed is double that excavated in building the Panama Canal. The Birds Point—New Madrid Floodway has been completed. The Bonnet Carre spillway structure and floodway have been completed. The plan adopted by the Act of May 15, 1928, is 90% completed. There remains to be appropriated to complete the project, $53,000,000 which amount is sufficient. The revisions recommended on Feb. 12, 1935 are dependent upon legislative action by Congress.

PORT FACILITIES

The year 1935 witnessed a material increase in the expenditures for improving dock and terminal facilities at United States ports. At Boston, dock facilities to provide improved handling of oil shipments were completed on the Chelsea River. A new wharf and coal handling equipment was completed at Bridgeport, Conn. At the port of New York, Piers 88, 90 and 92 were completed with a three-story pier shed on the first two enumerated, and two-story pier sheds were provided at Piers 32, 45 and 92. The Socony Vacuum Oil Company completed a new oil terminal covering 257 acres on Staten Island. The Albany Port Commission continued with its comprehensive plan for the construction of 400 feet of concrete dock wall wharf, a new transit shed, 300 feet of water front loading gallery at the grain elevator, and the installation of portable equipment for handling cargo. Facilities at Philadelphia were improved by the installation of additional handling equipment and the completion of a new land-water oil terminal on the west bank of the Schuylkill River. Plans have also been completed for extensive new construction at the Beckett Street Terminal. Lumber storage facilities were added to the Trenton Marine Terminal and two 500,000-gallon tanks for fuel oil storage were provided on Duck Island. Additional equipment for the handling of cargoes was added at the Wilmington Marine Terminal at Wilmington, Del. A gravity dump coal pier was started at the Lambert Point Terminal of the Norfolk and Western Railway at Norfolk, Va., which will have a capacity of 2,800 tons of coal per hour. Additional storage space and new handling equipment were provided at Wilmington, N. C., and improved facilities for handling petroleum products at Savannah, Ga. The City of Jacksonville, Fla., constructed three additional 7,000-barrel storage tanks for turpentine and enlarged existing facilities at municipal docks and terminals. Increased warehouse facilities were provided at Houston, Tex. A conveyor system to handle potash salts and several lifting magnets for handling scrap iron and steel were installed at Texas City, Tex., and pneumatic marine legs and vessel repair facilities were provided at Galveston to include the installation of a 10,000-ton unit of a floating drydock. New storage tanks and a pipeline to new oil fields were completed at Corpus Christi, together with a new concrete dock. A modern dock and warehouse was provided at Gulfport, Miss. On the Great Lakes, two new elevators and a dock were completed at Detroit, Mich., a new dock at Bay City, Mich., and a 720-foot addition to the coal dock at Toledo, O. On the Pacific Coast the Los Angeles Harbor Department completed the extension to the transit shed at Berth 177 and continued improvement of facilities at Berths 145 and 155. The Port of Stockton has constructed 1,730 lineal feet of concrete wharves, a new grain terminal, cotton warehouse, a lumber terminal, and three brick warehouses. A new grain terminal with a capacity of 2,000,000 bushels of bulk grain and storage of 200,000 bushels of sack grain was completed at Vancouver, Washington. A concrete storage terminal was completed at Portland, Ore. The Port of Seattle has reconstructed Pier 41, and has installed freezing equipment at the fresh fish warehouses and a conveyor for handling bulk grain at the Hanford Street grain pier.

INLAND WATERWAY COMMERCE

Government Improved Waterways.—The following table shows freight traffic for 1934 of waterways under improvement by the Federal Government, excluding short deep stretches of rivers (like the lower Hudson and Delaware), which are really approaches to ports:

Waterways	Short tons	Value
Hudson River	5,702,289	$ 184,124,236
Delaware R., above Philadelphia	2,816,775	14,008,186
Chesapeake-Delaware Canal	1,039,225	44,195,038
Waterway from Norfolk, Va., to the Sounds of North Carolina	171,252	4,235,093
St. Johns R., above Jacksonville	146,548	7,426,605
All others, Atlantic Coast	15,814,725	505,291,705
Tombigbee-Warrior System	1,073,509	27,277,523
Southern Louisiana Waterways (excluding Mississippi River)	2,555,626	38,805,769
All others, Gulf Coast	26,752,943	345,865,969
San Joaquin R.	1,046,066	38,112,829
Sacramento R.	1,183,654	35,872,599
Columbia R. and Lower Willamette below Vancouver and Portland (excluding ocean commerce)	4,903,508	42,881,540
All others, Pacific Coast	8,478,366	113,535,086
Mississippi R., below Vicksburg (excluding ocean commerce)	9,186,967	242,639,249
Mississippi R., Memphis to Vicksburg	3,880,311	194,326,618
Mississippi R., Cairo to Memphis	3,074,506	187,901,916
Mississippi R., Minneapolis to Ohio R. (Cairo)	3,054,818	94,801,959
Ohio River	18,636,366	224,444,232
Monongahela R.	14,219,114	67,744,092
Allegheny R.	3,028,294	11,644,089
Kanawha R.	1,786,483	9,476,428
All others, Mississippi System	6,324,571	52,180,038
All others in the United States	73,691,498	1,125,642,828
TOTAL	208,567,414	$3,612,433,990

Other Inland Waterways.—The following table is for internal waterways other than those under improvement by the Federal Government:

Waterways	Short tons	Value
New York State Barge Canal	4,142,728	$ 248,007,803
Lehigh and Delaware Division Canals, Pa.	116,826	130,845
Chicago Sanitary Drainage Canal	826,197	10,785,981
New Basin Canal, La.	136,930	2,396,247
All others of record	1,355,972	100,742,097
TOTAL	6,578,653	362,062,973
GRAND TOTAL, corrected for duplications because of commerce moving over two or more waterways	194,786,000	$3,463,331,000

NET TOTAL INLAND WATERWAY COMMERCE

1925-1934

Year	Short tons	Value
1925	204,569,000	$3,950,450,000
1926	217,000,000	3,680,000,000
1927	219,000,000	3,930,000,000
1928	227,300,000	3,838,000,000
1929	245,894,000	3,871,300,000
1930	226,760,000	3,557,000,000
1931	179,735,000	2,816,463,000
1932	151,276,000	2,589,992,000
1933	182,965,000	3,088,615,000
1934	194,786,000	3,463,331,000

COASTWISE COMMERCE

(including intercoastal)

Port	Tonnage both ways	Value
Portland, Me.	2,202,777	$ 43,913,568
Boston, Mass.	12,361,743	443,218,064
Providence, R. I.	5,353,967	378,529,958
New York, N. Y.	35,514,581	1,913,030,784
Philadelphia, Pa.	19,099,556	607,503,789
Baltimore, Md.	5,936,162	228,183,277
Norfolk-Newport News, Va.	18,184,853	390,905,266
All others, Atlantic Coast	22,983,344	854,319,176
New Orleans, La.	5,398,359	187,140,387
Galveston, Houston, Texas City, Tex.	17,395,206	424,131,532
The Sabine ports	24,157,727	265,292,159
All others, Gulf Coast	11,462,442	181,297,815
Los Angeles, Calif.	9,477,240	527,071,196
San Francisco Bay & Harbor, Calif.	13,541,175	658,305,852
Portland, Ore.	3,493,476	202,696,844
Tacoma, Wash.	1,053,454	48,055,952
Seattle, Wash.	4,286,155	253,920,753
All others, Pacific Coast	9,758,963	202,157,274
Ports of Hawaii	3,444,081	218,898,241
Ports of Alaska	309,376	44,834,772
Ports of Puerto Rico	1,064,835	97,405,529
TOTAL, all ports	226,479,472	$8,170,812,188
TOTAL, ALL PORTS, corrected for duplications of receipts and shipments	113,239,736	$4,085,406,094

COMMERCE THROUGH THE PANAMA CANAL

Fiscal Year	Intercoastal[1] (Short tons)	Total (Short tons)
1926	9,871,210	24,747,541
1927	11,365,592	31,078,000
1928	10,833,443	33,186,394
1929	11,084,212	34,342,567
1930	11,174,429	33,633,860
1931	9,862,020	28,092,736
1932	7,417,742	22,184,958
1933	7,197,801	20,280,655
1934	9,877,602	27,684,889
1935	12,124,642	28,346,670

[1] Included in coastwise figures.

FOREIGN AND DOMESTIC COMMERCE OF PORTS DURING THE CALENDAR YEAR 1934

(Short tons)

Grand Divisions	FOREIGN				DOMESTIC		GRAND TOTAL	
	Imports		Exports					
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Atlantic Coast	25,026,740	$2,477,955,984	10,444,291	$1,729,979,482	215,349,836	$ 9,287,267,924	250,820,867	$13,495,203,390
Gulf coast	3,190,522	123,622,403	13,330,260	550,435,776	67,512,146	1,294,037,106	84,032,928	1,968,095,285
Pacific coast	2,335,847	233,661,242	9,795,659	280,449,910	71,497,933	2,501,979,242	83,629,439	3,016,090,394
Great Lakes	4,286,984	119,210,992	9,376,623	55,498,309	144,667,178	2,178,589,722	158,330,785	2,353,299,023
Grand total, unadjusted	34,840,093	$2,954,450,621	42,946,833	$2,616,363,477	499,027,093	$15,261,873,994	576,814,019	$20,832,688,092
Adjusted total, eliminating all known duplications	34,840,093	$2,954,450,621	42,946,833	$2,616,363,477	278,709,529	$ 8,643,896,627	356,496,455	$14,214,710,725

Total commerce of the United States, 1934, adjusted total............ 411,948,000 tons, value $14,705,000,000

IX. DEFENSE AND ARMAMENT

OPERATIONS OF UNITED STATES NAVAL FORCES

By J. K. Taussig

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Navy Department

EMPLOYMENT OF FORCES

Basic Policy.—The operations of the Navy during the fiscal year ended June 30, 1935 have been guided by the basic U. S. Naval Policy, approved May 10, 1933, and remaining in effect without change, of which the fundamental statement reads as follows: "To maintain the Navy in sufficient strength to support the national policies and commerce, and to guard the continental and overseas possessions of the United States." Naval forces have been so disposed as to operate with maximum economy in effecting this purpose.

Objectives.—The employment of forces in support of the basic policy has had the following objects in view: (a) To exercise and train the units of the fleet to the highest state of efficiency; (b) To organize the Navy for operations in either or both oceans so that expansion only will be necessary in case of national emergency; (c) To protect American lives and interests in disturbed areas; (d) To cooperate fully with other departments of the Government and with the States; (e) to cultivate friendly international relations, and (f) To encourage civil industries and activities useful in war.

Ship Assignments.—The ships of the Navy were maintained in the same general organization as in recent past years. The ocean-going vessels were assigned, with minor exceptions, to the United States Fleet, the Asiatic Fleet, the Special Service Squadron and the Naval Transportation Service.—Small craft assigned to various duties in naval districts and at shore stations during the year totalled 156.

Surveys.—Survey work for the purpose of increasing the safety of sea and air navigation in various areas has been continued actively by small forces independent of, or detached from, the general organization. Two surveying vessels have been engaged in continuing hydrographic surveys in Central American and Caribbean waters, and the Aleutian Islands Survey Expedition has continued similar work in Alaskan waters. The activities in both of these areas have included aerial photographic surveys. Dynamic oceanographic surveys have been made by survey vessels and others in Central American and North Pacific waters.

ENLISTED PERSONNEL AND OPERATING FORCE PLAN

Average Strength.—The operating force plan, which determines the number of ships of various types to be kept in commission, is based upon the strength of enlisted personnel allowed for in the annual naval appropriation act. During the past fiscal year it has been possible to maintain an average strength of 81,510 men. The average enlisted strength of the Marine Corps during the year was 15,983.

Service Afloat.—It is considered essential that, in order to carry out peacetime training and maintenance to good effect, the ships of the fleet should be manned by not less than 85 per cent of their full designed complements—100 per cent for certain special types, such as submarines. The personnel allowed by appropriations for the past year fell short of this requirement, but it was possible to make such adjustments that the situation afloat, though not satisfactory, was reasonably adapted to the requirements of the fleet. During the fiscal year a total of 306 ships was maintained in commission and operated at sea. This number included 15 battleships, 15 heavy cruisers, 10 light cruisers, 105 destroyers, 54 submarines, four aircraft carriers, one minelayer, four light minelayers, 13 patrol vessels, 83 auxiliaries of all types and one lighter-than-air ship. Adding the 156 small district craft previously referred to there was a total of 462 naval vessels of all types in service during the year. Included in the foregoing total are the following new ships, placed in commission during the year: one heavy cruiser, seven destroyers and one mobile floating drydock, and other ships, formerly in reduced commission or out of commission, placed in full commission, as follows: one battleship, one ocean-going tug and two auxiliaries.

Ships Out of Commission.—The following ships were placed out of commission during the year: 4 destroyers, 4 submarines, and 4 patrol vessels. There were stricken from the Navy Register 44 vessels previously placed out of commission.

THE UNITED STATES FLEET

Operations.—At the beginning of the fiscal year the fleet was concentrated in Atlantic waters on the east coast of the United States, engaged in its regular program of drills and exercises and in visiting ports on the Atlantic and Gulf coasts. After a period of exercises in the West Indies, the fleet returned to the west coast of the United States. On October 23-24, 1934, the fleet again made a continuous transit of the Panama Canal. Again there was demonstrated the efficiency and cooperation of the canal authorities in effecting that operation. Conducting cruising exercises en route, the fleet arrived in the San Pedro-San Diego area on Nov. 9 and continued to operate in that area, conducting its exercise program, until April 29, 1935, when it was disposed in various United States Pacific harbors in preparation for Fleet Problem XVI, which began on May 3. That problem, held in the Puget Sound-Aleutian Island-Hawaii area, was designed to continue the regular advanced training of the fleet and was successfully completed with the return of the fleet to the San Pedro-San Diego area on June 10.

Tactics.—Periodical tactical exercises have been held throughout the year by all units of the fleet with the object of advancing progressively the coordinated training essential to fleet efficiency. Advances have been made in the knowledge of, and experience with, methods for the tactical employment of the various types. The year's tactical training culminated in Fleet Problem XVI, referred to above, which comprised operations of all available units in a widespread area in the Pacific and which included entry of practically the entire United States Fleet into Pearl Harbor. During the problem extensive use was made of submarines and aircraft, and valuable information was obtained regarding the capabilities and limitations of these special types. The results of the year's tactical training have again further demonstrated the advantages of basing the major units of the United States Fleet in the same general operating areas. The annual fleet concentrations and annual fleet problems are of the utmost value in training the personnel of the fleet.

Gunnery.—Each ship and aircraft in active commission throughout the year conducted gunnery practices adapted to its own type and designed to furnish progressive training for war. In order to gain time for the development of more effective training than has heretofore been possible along certain lines, the competitive features of the training were suspended for the year. The results of non-competitive experimental practices were satisfactory and represented considerable progress in gunnery technique. Gunnery schools in the fleet were held again during the year and continued to demonstrate their usefulness. Efforts are being made to establish an anti-aircraft gunnery school ashore near the Pacific coast bases of the fleet. This will fill a long-felt need and will permit development which is now difficult to accomplish on board ship in view of the crowded fleet schedule. Small arms firing on rifle ranges was continued on a considerably reduced scale but with excellent results.

Engineering Performances.—The competitive features of engineering training and performance were eliminated for this year, but the reports required by existing simplified rules were continued, as they are of great value to the material bureaus of the Navy Department and furnish information for intelligent performance analysis as well as valuable logistic data. In general the performance of ships in economy has been very satisfactory.

AVIATION

Aircraft.—At the end of the fiscal year, on June 30, 1935, the Navy had 974 service airplanes on hand and 472 airplanes on order. Fleet aircraft have participated to the fullest extent in all fleet problems and exercises, operating as an integral arm of the fleet and meeting all conditions encountered by the fleet.

Flights.—During the year Navy aircraft participated in the following notable flights:

1. Saratoga Squadron VF-6B and squadrons of Aircraft 1, Fleet Marine Force, participated in the National Air Races at Cleveland during the period August 31 to Sept. 3, 1934.
2. Seven hundred and five naval airplanes took part in flights on Dec. 17 in connection with the observance of National Aviation Day.
3. Squadron units of Aircraft 1, Fleet Marine Force, participated in the All-American Air Races at Miami, Florida, during January, 1935, and attended the Air Race Meeting at Toronto, Canada, during June.
4. In January the Navy's largest flying boat, the *XP2H-1*, made a nonstop flight from Norfolk, Virginia, to Coco Solo, Canal Zone.
5. Patrol Squadrons 7-F and 9-F made two flights to Alaska and return during the year.
6. All aircraft squadrons of the Fleet Air Base, Pearl Harbor, took part in extensive flight operations incident to the unsuccessful search for the plane *STAR OF AUSTRALIA*, which was lost at sea in the vicinity of the Hawaiian Islands.
7. The United States Navy balloon entry in the 1934 National Balloon Race, held at Birmingham, Alabama, won that event.
8. About 400 Navy airplanes took part in Fleet Problem XVI. For the first time a massed flight of planes in formation flew from Pearl Harbor to Midway Island, a distance of 1380 statute miles. This flight comprised 43 patrol planes, which participated in the fleet problem, basing upon tenders at Midway Island, and which returned to Pearl Harbor by air upon completion of the problem.*

THE ASIATIC FLEET

During the fiscal year the Asiatic Fleet has been engaged in normal employment in connection with its program of exercises and training. Units of the fleet have operated on the Yangtze River and from northern and southern Chinese ports. Training cruises were made to Japan, French Indo-China, the Southern Philippines and other neighboring countries. The Commander-in-Chief of the Asiatic Fleet visited Guam for the purpose of making a military inspection and cruised to Melbourne, Australia, to participate in the celebration of the tercentenary of the founding of that city. En route he made visits of courtesy to other ports in Australia, the Dutch East Indies and British Borneo.

The Fourth Marines, a regiment with a strength of 1,087 officers and enlisted men, has remained stationed at Shanghai. There have been no military operations. This force has maintained friendly relations with the Chinese people.

The legation guard of Marines stationed at Peiping, with a strength of 486 officers and enlisted men, has been maintained as in former years.

SPECIAL SERVICE SQUADRON

At the beginning of the fiscal year, in July, 1934, the troubled situation in Cuba continued to necessitate the presence of vessels of the Special Service Squadron, augmented by the U.S.S. *ANTARES* with a battalion of Marines on board, in the vicinity of that island. The *ANTARES* based upon Port Everglades, Florida, until Aug. 20, when she returned to the Hampton Roads area and landed the marines.

The vessels of the squadron established a temporary base at St. Petersburg, Florida, on Sept. 2 and operated from there until April 8, at which time conditions in Cuba permitted them to return to their usual operating area, based upon the Canal Zone. En route to that base informal visits were made to ports in the Bahamas, Cuba, Mexico, Honduras, British Honduras, Nicaragua, and Costa Rica. During the remainder of the year the squadron conducted normal training operations and paid informal visits to Central and South American ports.

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* For additional information on naval aviation see "Naval Aeronautics," pp. 338-341.

NAVAL TRANSPORTATION SERVICE

During the fiscal year the Naval Transportation Service consisted of two oilers, two cargo ships, two transports, and one ammunition ship. These ships carried out their normal mission of providing economical water-borne transportation for personnel and cargo.

The *SIRIUS*, an auxiliary cargo ship, made a special trip to the Pribilof Islands, to carry out a mission assigned to the Navy by the President—that of transporting to those islands personnel and material for the various government agencies with interests there. On the return trip the *SIRIUS* brought back a cargo of sealskins, the product of the annual kill at the government seal rookeries.

HAITI

On Aug. 15, 1934, the entire First Marine Brigade, comprising 79 officers and 747 enlisted men, was, by direction of the President of the United States, evacuated from the Republic of Haiti. Their departure was attended by impressive ceremonies on shore and by the display of most friendly feelings on the part of the populace. The Garde d'Haiti, which had been organized and trained by the United States Marine Corps, became completely Haitianized on Aug. 1, 1934.

NAVAL INTELLIGENCE

The Division of Naval Intelligence has continued its function of collecting, evaluating and disseminating information of value to the Navy. The public has been supplied with information regarding the Navy and its activities through the usual public channels.

The Navy Department library added 1,330 books and documents to its collection during the year, bringing the total to 81,840. The library personnel is called upon to do much research work in assembling data to answer numerous inquiries. The classifying, arranging and filing of World War records and the indexing of volumes of old naval records expedites the preparation of replies to these inquiries. The first volume of a collection of old historical documents covering the naval quasi-war with France is off the press. It appears that the first edition of 2,400 copies will not be large enough to fill subscription requests.

NAVAL COMMUNICATIONS

There are 36 naval radio traffic and 43 radio direction-finder stations in active commission. There are nine traffic stations in a decommissioned status. The naval radio station at Bar Harbor, Maine, was decommissioned and in lieu thereof the naval radio station at Winter Harbor, Maine, was commissioned on March 2, 1935.

The total traffic handled over the naval shore radio system, including relays, during the fiscal year, is estimated at 127,031,726 words. Fifty-three per cent of the government traffic handled was for other government departments. It is estimated that the saving effected on all government traffic, including that for the Navy, was $3,325,482.

During the year the naval radio direction-finder system continued to render excellent service to government and merchant shipping as well as to aircraft. About 28,000 bearings were furnished to naval vessels and about 180,000 bearings to other craft. The value of this service is evidenced by many letters of appreciation from vessels of the merchant marine, both foreign and domestic.

A total of 22,578 broadcasts of time signals was sent out from Navy shore radio stations during the year. This very large increase over previous years was necessitated by the requests of scientific users of this service, such as the field parties of the Coast and Geodetic Survey, seismological laboratories and so forth.

Weather bulletins were broadcast

daily on numerous frequencies from 26 naval radio stations and hydrographic bulletins from 21 stations. Assistance was also rendered to the Weather Bureau in collecting information upon which these bulletins are based. This bulletin service is of particular necessity and value to all mariners.

Efforts have been continued to turn over to commercial companies, whenever possible, the commercial traffic now handled by naval radio. During the fiscal year the Naval Communication Service paid in to the United States Treasury the sum of $44,000 earned by the handling of commercial traffic during the year.

The training of the Naval Communication Reserve has continued satisfactorily. There are 29 reserve radio-control stations supplied with government-owned transmitting and receiving equipment. During Fleet Problem XVI, Communication Reserve personnel, placed on temporary duty in various naval districts and in the Navy Department, rendered valuable service.

The Office of Naval Communications cooperated with other interested departments in preparing exhaustive data for use at the International Technical Radio Conference held in Lisbon during the autumn of 1934. The Director of Naval Communications attended this conference as a United States delegate.*

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* For naval administration and official organization see THE AMERICAN YEAR BOOK, 1934, pp. 297-301.

NAVAL CONSTRUCTION AND EQUIPMENT

BY PETER BAIN

NAVAL CONSTRUCTION CONSULTANT

THE INTERNATIONAL DISARMAMENT ATMOSPHERE

An international atmosphere hitherto considered propitious and wholesome for the discussion and launching of world-wide disarmament projects did not for long survive the advent of 1935. Anticipatory of the expiration of all treaty restrictions at the 1936 year-end, relative naval categories embraced came early under the close scrutiny of the signatory nations concerned, the motif, as later disclosed, being that permissible new construction not yet in process become manifest in due course as a concrete reality. Coincidently, continuing earnest consideration was being given and strenuous effort put forth to have the various signatory nations come together in conference for interchange of opinions, expression of intentions and, desirable because necessitous above all, laying of the groundwork of some plan whereby a free-for-all and riotously costly naval construction era be avoided with the ushering-in of 1937. Such a conference did convene in London early in December and, following two weeks of preliminary exposition of views, adjourned to Jan. 6, 1936. The points around which controversy may rage most fiercely when the parley reconvenes are: Japan's claim to parity with the United States and Great Britain; Italy's demand for tonnage equality with France; limitation by global tonnage or vessel categories; Britain's proposal to fix a common maximum of 52,000 tons or less for submarine tonnage as against the claim of France to a minimum of 90,000 tons, and the size and gun calibre of future battleships and cruisers.

In view, too, of the currently disclosed naval renaissance in Germany, coupled with lavish construction by Japan, France and Italy of cruisers, torpedo craft and submarines, Great Britain without doubt will state a case for a substantial fleet increase. With the prospect of Japan upholding her claim for complete parity, France declining the relatively small allowance of naval tonnage accorded her under the Washington Treaty of 1922, and Italy's adhesion to any new limitation pact being conditional on the neutralization of the Straits of Gibraltar and Babelmandeb, western and eastern ''bottle necks'' of the Mediterranean and sole outlets of Italy to the Atlantic and Pacific Oceans, about the only hopeful feature seems to be grounded on the apparently close accord existing between the United States and Great Britain on most of the fundamental issues. Both are reputed to be firm for ''quantitative limitation,''—restriction of each navy to a total tonnage figure, preferably divided up into vessel categories—and both are opposed to Japan's demand for equality. Such differences of viewpoint as exist between the United States and Great Britain belong to the purely technical phase—size and armament of future ships. Because of lack of overseas bases, the United States favors 35,000-ton battleships and 10,000-ton cruisers. Great Britain, on the other hand, leans toward a cut of 10,000 tons in battleship size and 3,000 tons in that of cruisers, arguing that even in face of the reduced dimensions both types would be fully qualified to perform their respective functions.

Whatever the outcome of the Five-Nation-Conference, it goes without saying that 1936 will bear all the earmarks of a boom year in naval construction and equipment. Since the United States, Great Britain and Japan each possess a number of battleships whose average age approaches the 20-year limit, replacement programs soon will be in order; consequently there will further devolve upon the Conference the task of insuring that projects of this nature are not launched without some sort of international understanding if future armament rivalry is to be avoided. Millions have been spent in the modernizing of capital ships by the United States, Japan, and more recently, England, yet the old adage appears to hold here as in other spheres that reconstruction seldom pays. Aside from capital ship replacements by the three powers named above and ineffective until expiration of the Washington and London Treaties, it may well be insisted that the new era of capital ship construction is not only already here but has been in evidence since the laying down of the French battleship *Dunkerque* some three years ago. In the interval, not only has a sister vessel been put in hand but approval has been given for the building of two 35,000-ton units to match the Italian *Littorio* and the *Vittorio Veneto* laid down in October, 1934. Germany, by way of response to the two *Dunkerques* of France has under construction two 26,000-ton capital ships.

UNITED STATES LIMITATION OBJECTIVE

Although substantial progress was registered in providing an orderly increase in the strength of the United States Navy during 1935—new construction in process, plus that previously authorized and provided with appropriations—it remains to be said that, in completed under-age destroyers and submarines, we will be well below the strength permitted when the Washington and London Treaties expire on Dec. 31, 1936. The Trammell-Vinson Act of March, 1934 authorized construction of ships and aircraft to bring the Navy to the full strength allowed in the various categories limited by the Treaties, also maintenance of that strength by new construction replacements of craft reaching the over-age limits prescribed. Effective adherence to the policy expressed in the Act was demonstrated by the passage and approval of the Naval Appropriation Act for the fiscal year 1936 which provided funds for continuation of construction of ships started under earlier appropriations and allocations of funds. and for the laying-down of 24 additional vessel units as follows: one aircraft carrier to replace the experimental carrier *Langley*, two light cruisers, 15 destroyers, and six submarines. Thus, of construction permitted in the various treaty categories, all has been undertaken or provided for except 35 destroyers and 14 submarines in line as over-age replacements.

According to Chairman Vinson of the House Naval Affairs Committee, our full strength navy contemplated for 1942 will consist of 313 vessels of which 191 will be combat units. The heavy cost attendant on building up a treaty navy now, at the eleventh hour so to speak, has unhesitatingly been laid to the folly and futility of the course we pursued following the Washington Treaty of 1922. From that time until 1930, the United States laid down only 21 ships while Great Britain laid down 86 and Japan 125. Small wonder is it then that we are credited today with more combatant tonnage on our shipways than at any time since the World War. For the first time in our history, however, we have a logical, orderly plan for the maintenance of the Navy at a level which is sufficient to provide against emergency and, not lightly, will we be disposed to deviate from the course now set. This country does not propose to go beyond the ratios established by the Washington and London Treaties, which is equivalent to saying that there will be no international race unless some other nation is foolhardy enough to decide otherwise. The Treaty Navy authorized by Congress in 1934 and due for completion in 1942 will consist of 15 capital ships, six aircraft carriers, 18 8-inch gun cruisers, 17 6-in gun cruisers, 13 heavy destroyers, 84 light destroyers, 38 submarines, and 1910 airplanes. Its full complement will embrace 7,941 officers and 127,000 men.

Acting promptly to make use of the funds authorized in the $460,000,000 Naval Supply Bill signed June 25 by President Roosevelt, Secretary of the Navy Swanson made known the day following that bids for the construction of 13 new ships would be opened Aug. 7. Money for these and 11 others was provided in the measure. Bids were sought on the following: one aircraft carrier, one light cruiser, three destroyers not exceeding 1,850 tons displacement, five destroyers not exceeding 1,500 tons displacement, and three submarines. The 11 other vessels authorized in the 1936 construction program embrace one light cruiser, seven destroyers not exceeding 1,500 tons displacement, and three submarines.

The $460,000,000 Naval Supply Bill, providing for a bigger and more powerful Navy, constitutes one of the most generous appropriations in the Navy Department's history. Besides the content of increased sea power represented by $100,000,000 for shipbuilding, the bill carried $52,000,000 for naval aviation, of which enough is set aside to build 555 new aircraft of varied design—282 as replacements, and 273 additional units. Secretary Swanson also let it be known that intensive study was being given the matter of replacement of more or less obsolete craft beyond the pale of existing treaties. Our present auxiliaries are for the most part old, therefore they are lacking in the speed factor which constitutes so important an element in the vessels they serve and in the onerousness of the work to which they are assigned.

COMBATANT SHIPS UNDER CONSTRUCTION

On July 1, 1935, there were under construction, representative of various stages of completion, a total of 64 combatant craft designated by categories as follows: two aircraft carriers, three heavy cruisers, seven light cruisers, 10 submarines, 10 destroyers of 1,850 tons displacement, 30 destroyers of 1,500 tons displacement, and two gunboats. Of the program authorized by Act of Aug. 29, 1916, there still remained to be constructed a transport vessel if desired and if funds be made available. Another long step in the Administration program to build to full treaty strength was taken Sept. 9, when the Navy Department authorized construction of 23 new combatant ships, constituting the entire 1935 program save that of a 10,000-ton light cruiser, bids for which were rejected as unsatisfactory because from $1,000,000 to $2,000,000 in excess of bids submitted for the like type of vessel about a year previously. Twelve ships to cost $59,225,500 will be built in private yards and 11 in Navy Yards. The contract for the aircraft carrier went to the Bethlehem Shipbuilding Corporation of Quincy, Mass. This vessel of 14,000 displacement tons and costing $20,737,000 will bring our aircraft carrier category to virtual treaty strength and, with it, possession by the United States of four of the greatest and most up-to-date units of their type elsewhere available. Other awards to private yards, all subject to adjustments within limits for changes in direct labor costs and that of materials, were as follows: Bath Iron Works Corporation, Bath, Me., three 1,850-ton destroyers at $3,882,500 each; Federal Shipbuilding and Drydock Company, Kearny, N. J., three 1,500-ton destroyers at $4,000,000 each; Bethlehem Shipbuilding Corporation, Union Plant, San Francisco, two 1,500-ton destroyers at $3,675,000 each, and Electric Boat Company, Groton, Conn., three submarines at $2,497,000 each.

Ships to be built in Navy Yards consist of a 10,000-ton light cruiser at Brooklyn, two submarines at Portsmouth, N. H., and one at Mare Island, two 1,500-ton destroyers at Boston, one at Philadelphia, two at Norfolk, one at Charleston, S. C., and one at Puget Sound, Wash. Following placement of the foregoing contracts and allocating the Navy Yard quotas, the Department announced that it would immediately advertise new bids for construction of the still uncontracted 10,000-ton light cruiser, indication at the same time being given, if the new bids were again unsatisfactory, that construction would probably be turned over to some Navy Yard. All of the 64 ships already noted as being under construction on July 1, 1935 are scheduled for completion during the calendar year 1936. On Oct. 4, in response to the readvertisement for bids on the 10,000-ton light cruiser, a contract was placed with the Newport News Shipbuilding and Dry Dock Company, at a cost of $13,196,000, subject to adjustment for labor and material costs. The vessel is due for completion Jan. 2, 1939. The Virginia shipyard furnished the lone bid out of four originally submitted and rejected. Taken by and large, and stimulated, no doubt, by Secretary Swanson's letter to the different Navy Yard commandants to speed up ship construction because of its importance and value in unemployment relief, the calendar year 1935 probably set a new high peace-time naval preparedness mark. Launchings, keel layings and vessel commissionings of practically all categories with the exception of capital ships crowded the year right up to its closing hours. It appears that more or less dissatisfaction had been expressed over the progress being made in the expenditure of the 1933 fund of $238,000,0000 for naval vessel construction, hence Secretary Swanson's letter to Navy Yard commandants and its not improbable sequel, a closing half year conspicuously reflective of positively applied effort and concrete achievement.

CAPITAL SHIP SITUATION

Effort toward self-maintenance by the personnel afloat contributed to a reasonably satisfactory degree towards the efficient material condition experienced by the United States Fleet as a whole during 1935. Repairs first was the guiding and controlling principle. Alterations were accomplished as far as limited funds permitted, although many very important changes looking toward economy, reliability, and military efficiency, had of necessity to be deferred for lack of funds. A number of essential improvements in capital ships and airplane carriers involving funds larger than can be supplied from regular appropriations await special authorization and appropriation by Congress. An official move toward resumption of American capital ship construction was revealed in an announcement by Secretary Swanson on July 10, that the Navy Department had in mind asking the next Congress to authorize one dreadnought as part of the shipbuilding program of the 1936-37 fiscal year. Under treaty limitations, no battleship may be built before Jan. 1, 1937, on which date, according to Mr. Swanson, seven of our vessels so classed will be over-age on the agreed basis of 20 years useful life. The vessels affected are the *Arizona, Arkansas, Nevada, New York, Oklahoma, Pennsylvania,* and *Texas.* The*Arkansas,* under consideration as the first in line for replacement, is the oldest of her class in the fleet, being the only one mounting 12-inch guns and to a degree so obsolete in construction and equipment as to bar contemplation of the expense involved in modernization through reconstruction and re-equipment. It was pointed out, however, that it still was our intention to continue to live up to the spirit of the Washington and London Treaties even beyond Jan. 1, 1937, so long of course as the governments of other countries adopted and demonstrated a cooperative attitude.

Among contemplated major improvements to capital ships, of a nature so extensive as to call for special appropriations by Congress, are replacement of the fire-control installations of the *Tennessee* and *California;* replacement by modern turbine installations of the reciprocating propelling engines of the *Oklahoma, New York,* and *Texas,* because of destructive vibrations at speeds normally employed by the fleet for cruising; replacement by modern batteries of 5-inch guns of the anti-aircraft batteries of the *New York* and *Texas,* because obsolete and relatively ineffective. Congressional authorization and appropriation is seen, too, in the sphere of naval aircraft development, service operations of the carriers *Lexington* and *Saratoga* having demonstrated the necessity of many varied and expensive alterations, amounting in time and money to at least a high degree partial modernization of both vessels. The improvements contemplated have been incorporated into later carriers, a circumstance that makes it all the more desirable to have the two older and bigger carriers brought promptly up-to-date.

OLD WAR CRAFT

According to the *Associated Press,* Navy Day disclosed more than 200 combatant units, some of them grizzled warriors of a day long past, tied up at government docks in various parts of the country. Old age, aided and abetted by the Washington and London Treaties, may be said to have started most of them on the way to the junk pile. A number of them may, of course, find years of usefulness ahead in some department of Coast Guard Service activity and, not improbably, a few will ultimately be preserved as naval relics. The year end was expected to seal the doom of the somewhat ancient cruiser *Alton,* once the proud No. 1 of the "new steam and steel navy," bids returnable Nov. 21 having been sought, looking to final disposal. Resting now in Pearl Harbor, the *Alton's* construction period covered the years 1883-89. Oldest of all is the *Constellation* now at Newport, R. I., her launching date, 1797, antedating that of the *Constitution* (*Old Ironsides*) now restored and serving as a station ship in Boston harbor. The cruiser *Olympia,* Admiral Dewey's flagship at Manila Bay, finds a haven in Philadelphia. Annapolis shelters the *America,* Queen's Cup winner of 1851 in England and in Confederate service during the Civil War, capture by Union forces in no respect dimming her earlier achievement. Annapolis, too, has in its keeping the *Reina Mercedes,* a Spanish cruiser taken in the course of the Spanish-American War. The *Oregon,* a more or less antiquated type capital ship, has been lent to the state for which it was named. Another old one, the *Illinois,* is docked at New York City, rendering service there as a training ship. Among the more modern craft out of commission are several scores of destroyers, two to three dozen submarines, a half-dozen or more mine layers, the old gunboat *Fulton,* patrol vessels, storeships, colliers, oilers, and the hospital ship *Mercy.*

OVERSEAS NAVAL CONSTRUCTION AND EQUIPMENT

It will be abundantly evident from what already has been said that not within living memory have naval aspirations been aimed so high and determination that they be realized *in toto* been so insistently and consistently nurtured as at the present time. Every nation of maritime pretensions has been expanding or preparing to expand its naval equipment. When the Washington Conference convened in 1921, the only naval powers vitally interested were the United States, Great Britain, and Japan. Now, however, France, Germany, Italy, and Soviet Russia belong by common consent to a group, no longer the "big Three," but an enlarged group equally important as the original and no less so by virtue of the feverish constructional activity the newcomers are and have been displaying. Naturally, a good deal of secrecy obscures much of the vital and, therefore, the most interesting of the plans, projects, and products that individual nations have drawn, schemed and created, respectively, wherewith to compass their aspirations and goals. Enough, however, can be gleaned from what follows to show that unless all portents fail, 1936 and the immediately succeeding years cannot well escape being envisaged as other than swiftly recurring opportunities for the mad pursuit of a tremendously costly yet ultimately futile quest.

GREAT BRITAIN

The Anglo-German naval pact of the summer restored to Germany her old command of the Baltic, altered Britain's status in the North Sea and forced France to a changed conception of her naval requirements relative to the Atlantic. Great Britain is resolved to rearm; not only by creating a huge air force but also by modernizing her Navy, additions to its cruiser categories being among the ranking instruments to that end. The cruiser fleet, restricted to 50 units by the first London Conference, will be augmented by 10 more as soon as feasible after Jan. 1, 1937, and may be still further expanded if foreign cruiser programs are not then being curtailed. At least one phase of British naval policy has been plainly and openly indicated. The strength of the United States Navy will be a matter of purely sympathetic interest, the presence of a powerful American fleet in the Pacific being considered as nothing other than a bulwark of peace. Again, were the United States to create a powerful naval force in the Atlantic, no Briton outside a mental clinic, to quote an authority on things naval, would be to any degree perturbed, much less upset. Great Britain's sole concern with naval expansion by the United States appears to lie with its possible influence on other nations. A semi-official statement relative to anti-aircraft armament indicated that during the next few years, as ships are taken in hand for large repairs, their number of anti-aircraft guns will be doubled. Capital ships of the *Queen Elizabeth* class for example, will each mount eight long range anti-aircraft guns instead of four as at present, and any new capital ship would be designed with sufficient space to mount a still greater number of anti-aircraft guns. A bomb-proof defense for magazines, machinery, inflammable stores spaces, and all vital control stations is expected to constitute a feature of the new capital ships to be laid down early in 1937. Estimated expenditures during 1935 for naval needs presented to the House of Commons indicated a total close to $300,000,000, constituting an increase over 1934 of $17,500,000, of which amount $12,500,000 represented chiefly necessary and extensive repairs to and modernization of capital ships.

The year's new construction program comprised three 9,000-ton, 6-inch gun cruisers of the *Southampton* type; one flotilla leader and eight destroyers; three submarines and one submarine depot ship; three minesweeping sloops and one convoy sloop; one survey ship and seven miscellaneous small craft. Cost of the program will be spread over a period of three years. Since the World War all British combatant ships have been designed exclusively for burning oil, but now, in view of possible restriction of oil supplies during a crisis, it has been deemed advisable to have them so equipped as to employ an alternative fuel, for instance, coal in powdered form.

Admiral Beatty, one of the most outspoken exponents of a huge and well-balanced British navy, writing in the *Evening Standard* early in November, made claim that command of the sea is an essential element in any scheme of collective security for the enforcement of peace by sanctions, whether economic or armed. It is, he insisted, because doubt has arisen as to whether the British Navy is in fact in a position to carry out this all-important rôle that its wholesale reconditioning has become so urgently necessary. Summed up, 30 new cruisers, 110 new destroyers and flotilla leaders, six new squadrons of naval aircraft, reconditioning from stem to stern, or scrapping for replacement of five over-age battleships and three battle cruisers, at an estimated cost of $700,000,000, constitute the substance of fleet construction he visioned for completion in 1942. Lord Beatty urged, too, that coast defenses at Gibraltar, Malta, and Singapore be speedily strengthened. In his opinion, failure of the Naval Conference may call for an even more extensive program of battleship construction than above noted. Allowing for existing ships that will become out of date at the 1936 year-end, the British Navy in 1942 will, not improbably, consist of 14 capital ships, compared with 15 now, 72 cruisers compared with 50, 142 flotilla-leader destroyers, compared with 84, 57 submarines compared with 39, and 10 aircraft carriers compared with eight. In addition, the giant battle-cruiser *Hood* will still be serviceable although technically obsolete in 1940. The seven-year program foreshadowed will give Britain 12 new capital ships, 33 new cruisers, 63 new flotilla leaders and destroyers, 21 new submarines, and three new aircraft carriers.

JAPAN

Japan insists that she will not again accept a ratio agreement, hence her denunciation of the Washington Treaty. Progress on Japan's three naval replacement programs has been so satisfactory that the newspaper *Hochi*, in giving figures, maintains that, if a naval race starts with 1937, Japan will be able to meet it. Of 90 war vessels provided in the first replacement plan, 28 have been completed, 17 have been launched but are still unfinished, 23 are under construction, and only 22 remain to be started. The second replacement plan provides 48 vessels aggregating 137,170 tons. Seven have been launched but are still uncompleted, 19 are under construction, and work on most of the remaining 22 will begin in 1936. In the third replacement plan providing 39 vessels, 25 are completed, 10 have been launched, and only four small craft remain on the ways. The 1933 urgency program calling for one submarine, one supply ship, and two submarine chasers has also been completed. According to authoritative report, new destroyers are being launched in Japan with unfailing regularity, old ones being scrapped correspondingly. As a result of the capsizing of the *Tomodzuro* with the loss of 110 lives, a new and more satisfactory type of torpedo boat is understood to have been evolved.

FRANCE

Britain's acceptance of Germany's naval proposals was generally regarded as something in the nature of a capitulation to Chancellor Hitler. A not inconsiderable and more or less representative opinion held, however, that it was perhaps wiser to come to an agreement on the basis of a German fleet 35 per cent as large as that of the British than to refuse, as France did, all suggestions for the revision of land armaments conditions of the Treaty of Versailles, and finally come face to face with a new German army of more than 500,000 men. A bill submitted to the Chamber of Deputies provides for the construction of two 35,000-ton battleships, one of which, together with two destroyers, were to be laid down immediately. It looks like a tragedy for France that her great submarine effort of the last decade or more, during which she built some 80 undersea craft, has now come to be recognized as a mistake. As a defense unit the submarine has a very limited value and constitutes a somewhat doubtful antidote to the long range ''pocket battleships'' and cruisers of the new German Navy. Thus, after spending more than $300,000,000 on a submarine fleet, France finds herself compelled to resume construction of capital ships which only a few years ago she derided as anachronisms. Officially, speedy completion of war vessels under construction and protective accords with Great Britain and Italy, appear to constitute the response of France to Germany's already-in-evidence and future-projected Navy. Broadly speaking, there is involved also, a hastening of completion of the battleship *Dunkerque*, a general speeding up of work on numerous small craft outside of treaty scope, and intensive preparation for a generous and prestige-building naval construction campaign, if found necessary, when treaties expire. Keel of one new 35,000-ton battleship was laid at Brest on Dec. 5.

ITALY

Apparently disappointed that a British fleet was still massed in the Mediterranean, Italy late in October announced her intention to set aside an appropriation deemed commensurate at the moment to the strengthening and general constructive aspects of her existing naval programs and having regard, as well, to the need for such future planning as might demand concrete expression should unrestricted competition ensue as the unfortunate sequel to the passing of an era of proven national and international security. A government decree authorized 441,000,000 lira as an extra appropriation for new construction and transformation of naval craft. The expenditures will cover a period of three fiscal years starting with that of 1935. Already the naval budget for the latter had totalled 1,304,881,000 lira. Well-informed sources interpreted the decree as indication that work on the two new 35,000-ton battleships and other units will now be hastened to earliest possible completion.

GERMANY

Under the Anglo-German naval agreement, Germany is permitted to have a fleet of 420,000 tons. Her present fleet is approximately 127,000 tons. The current building program of 120,000 tons will hardly be completed before the middle of 1937, thus, about 173,000 tons will have to await a subsequent building program. While German naval authorities are on the whole pleased with their British agreement, they would like to have it modified somewhat in detail. They especially would prefer a freer hand in the size and armament of their ships. For reasons of prestige, Germany must build ships as large as those of any other nation, and must at least equal the French and Italian 35,000-ton capital ships. The naval agreement does not exactly bar this but it leaves the question more or less open pending some final decision of a future limit, if any, to craft in this category. Two 26,000-ton battleships and two 10,000-ton cruisers are under construction, also 28 submarines. The battleships will mount guns of 11.023 inches calibre and those of the cruisers will be of 7.874 inches calibre. Two of the submarines will displace 750 tons each, six will be of 500 tons, and 20 of 250 tons. The 250-ton units have been completed, also 16 new destroyers, all of the same class—1,625 tons each and mounting 4.99 inches calibre guns. Plans were in preparation for the first German aircraft carrier as were also those for 1936 and following years covering war vessels to be built according to the principle of qualitative equality. The third and last of the 10,000-ton ''vest-pocket battleships'' is due for completion early in 1936. A new type of naval fighting craft known as a ''fleet companion'' went into commission during December. Except for the statement that 600 tons designates to some extent its size, the only additional information officially available places the number under construction as 10 and the individual armament as two guns of about four inches calibre. Fast seagoing minesweepers seems to be the logical guess as to their utility. Germany is believed to be building a regular ''mosquito'' fleet of small armed speed boats for both defensive and offensive purposes, reliable details concerning which are apparently closely guarded. Of course they are units not covered by either treaty or agreement.

IX. DEFENSE AND ARMAMENT

NAVAL AERONAUTICS

By E. J. King

Rear Admiral U.S.N.; Chief, Bureau of Aeronautics, Navy Department

ADMINISTRATION AND CONSTRUCTION

During 1935 maintenance of aviation forces afloat in the highest state of efficiency has been the chief concern of the Bureau of Aeronautics. The Bureau is charged with matters pertaining to naval aeronautics as may be prescribed by the Secretary of the Navy.

At the present time the Bureau of Aeronautics is charged with and responsible for all that relates to the design, construction, fitting out, testing, repair and alterations of Naval and Marine Corps aircraft and, except as specifically assigned to other cognizance, instruments, equipment and accessories pertaining thereto. In addition, the Bureau provides aircraft in accordance with approved operating force plans, maintains all aeronautic shore establishments of the Navy and Marine Corps and makes recommendations covering all aeronautic matters as to operations, personnel and material to the appropriate bureaus and offices of the Navy Department and the headquarters Marine Corps. In order to maintain the proper condition for readiness for war, it is necessary to provide aircraft and the equipment which is modern, reliable and superior to that used by foreign nations. That a marked degree of success has been obtained in the carrying out of these assignments is attested by the manner in which aircraft have performed their duties in fleet problems and the clean bill of health given the Naval Air Component by the Federal Aviation Commission and various congressional committees.

Funds under the cognizance of the Bureau have been used to provide aircraft and equipment for the operating forces of the maximum efficiency, reliability, and consequent usefulness. Funds provided for experimental purposes have been used to obtain the greatest possible improvement in airplanes, engines, instruments, radio, armament, materials, aerodynamics, carrier launching and arresting gear, and seaplane launching and recovery gear. Of particular interest are two torpedo-bomber landplanes and a new, long range patrol plane, which are under procurement. Funds provided for new and replacement aircraft have been used to procure aircraft of approved types, and in accordance with approved type complements, which embody the latest and most important developments in aeronautics. Ever increasing high speeds have increased the take-off run and landing speed, both of extreme importance on board a carrier. The improvement in controllable pitch propellers and the development of landing flaps have improved the landing and take-off characteristics of aircraft to the extent that carrier aircraft are now provided which compare favorably in performance with the landplanes which operate entirely from fields ashore.

The Vinson-Trammell Act authorized the provision of naval aircraft commensurate with the strength of surface ships of the "Treaty Navy." A tentative program has been drawn up which provides an orderly expansion over a period of five to seven years to attain the eventual strength authorized. New airplanes have already been added to the Naval Aeronautical Organization in accordance with this program, and funds have been provided in the 1936 Federal budget with which to procure airplanes for the new aircraft carriers *Yorktown* and *Enterprise* and six new cruisers now building.

During the fiscal year 1935, the President made $12,902,722 available to the Navy Department from the Emergency Appropriation Act for the purchase of the first installment of aircraft to be added under the Vinson-Trammell Authorization. The sum of $2,708,800 was also allowed to bear the cost of expanding the Naval Aircraft Factory at Philadelphia, in order to allow the building of 10 per cent of Naval aircraft also stipulated in the Vinson-Trammell Bill.

EQUIPMENT, MATERIAL AND DESIGN

The policy of providing the Service with improved power plants has been continued by means of strenuous proof testing of service products, by 150-hour engine endurance tests and 150-hour flight service tests of new type airplanes, supplemented by special over-speed tests and standardized tests of engine-propeller combinations.

The completion during the past year of the development and proof-testing of the dynamic damper and the release of this device for installation in service engines for the purpose of reduction or elimination of torsional vibration in crankshafts, promises to be one of the most important advances in aviation power plants in recent years. Another outstanding advance has been the development of full pressure lubrication to cylinder valve gear, application of which to service type engines is now in progress.

The two-row radial type engine now in its first year as a service model, has operated with marked success, justifying the expectations expressed during its development period.

As the result of developments in the experimental field, applications have been made to service power plants to improve installation features and to provide for better starting facilities under cold or wet weather conditions, together with a general improvement in the quality and method of application of fuels, oils and lubricants. Improvement has been made in the ability of engines to withstand the corrosive effects of salt spray to which naval airplanes are so generally subjected.

During the year, the performance and effectiveness of service type airplanes have been greatly increased, and experimental models have been brought out which indicate still further improvement.

In the field of structural development, great attention has been devoted to the determining of the design conditions which naval aircraft structures must meet. This has generally revealed the necessity of increased structural strength in airplanes of high performance, and progressive steps are being taken to incorporate the required strength in these craft.

The flight testing of new aircraft as to indicate not only their performance but to reveal defects or necessity for changes prior to quantity production and issue to the naval service is carried out at the Naval Air Stations at Anacostia and Norfolk while diving and bombing tests are made at the Naval Proving Grounds at Dahlgren, Va.

Continued progress has been made in the development of new types and the improvement of existing types of flight, engine and navigational instruments. Extensive service tests of automatic pilots installed in various types of airplanes and in an airship have been conducted to determine the suitability of automatic pilots for Naval needs.

The installation of modern instrument equipment purchased for approximately 25 per cent of airplanes in service under an allocation of National Industrial Recovery Act funds has been carried on during the year.

The beneficial results to the Service have been a gradual but extensive and continuous improvement in quality of materials, increased resistance to corrosion, reduction in weight, reduction in hydrodynamic and aerodynamic drag of exposed parts and in simplification of accessory design. An important phase of routine test work has been the testing of the products of manufacturers against established specifications and standards, to develop new and acceptable sources of supply.

The General Specifications for Airplane Design are being constantly revised in the light of experience, with particular emphasis on maintenance characteristics. Airplane Type Specifications for contract purposes have increased in number. Army-Navy standardization has continued and the new specifications will be brought into agreement between the two services and made the subject of standardization.

Aerodynamic improvements during

the past five years have resulted in a marked reduction in drag with corresponding increase in performance.

Investigation of high lift devices and methods of improving lateral control at low speeds continue with promising results. The Bureau has supplied the National Advisory Committee for Aeronautics for test in the full scale wind tunnel and in flight a series of wings fitted with high lift devices. The completion of this series of tests will enable satisfactory comparison of the advantages and disadvantages of high lift devices.

The problems of flying boat hull design are being studied with a series of large size models supplied by the Bureau for testing in National Advisory Committee for Aeronautics Model Basin at Langley Field.

OPERATIONS

The ship-based aricraft of the Fleet participitated in all Fleet problems and tactical exercises during the fiscal year 1935. The Fleet aircraft concentration during the summer of 1934, was held at the Naval Air Station, Norfolk, Va., while the 1935 concentration was carried out at the Naval Air Station, San Diego, Calif. With the commissioning of the *U.S.S. Ranger*, two additional squadrons were formed to become attached to the ship. These squadrons VB-5 and VB-3, before the departure of the *Ranger* for the West Coast, conducted cold weather flight operations from Buffalo, N. Y. and Hartford, Conn.

Three patrol squadrons based at Coco Solo, C.Z., together with the *U.S.S. Wright* and tenders, made a cruise around the Caribbean Sea during January and February, stopping at the principal ports of the north coast of South America and the Lesser and Greater Antilles. Aircraft of the Battle Force and aircraft of the Base Force at Pearl Harbor participated in Fleet Problem XVI, an important feature of which was the flight of 43 patrol planes from Pearl Harbor to Midway Island and return.

Included in the ferrying schedule of aircraft, for delivery of new planes and overhaul of old ones, was the delivery of the *XP3Y-1* patrol plane from the Naval Air Station, Norfolk, Va., to the West Coast, *via* the Panama Canal. During the flight from Coco Solo to San Francisco new world's records for distance non-stop, airline and broken line were established. This flight took place Oct. 14-15, 1935.

The *U.S.S. Macon* from July, 1934 until her loss in February, 1935, was operated from the Naval Air Station, Sunnyvale, Calif. and made gratifying progress in perfecting details of airship operating technique. Gratifying improvement had also been shown by the *Macon* in perfecting an organization and doctrine of operations that were demonstrating increasing possibilities of usefulness to the Fleet.

At the request of the Secretary of the Navy, a special committee was appointed by the Science Advisory Board "to review and analyze the past and present situation as to design and construction of airships and to make recommendations as to their future design and construction." The findings of this committee have not yet been received by the Navy Department. Pending this special report, no recommendations regarding the construction of additional large rigid dirigibles have been made.

The *U.S.S. Los Angeles* is being used in a non-flight status to carry out various experimental development projects at the U.S. Naval Air Station, Lakehurst, N. J. Following the loss of the *U.S.S. Macon*, all lighter-than-air activities were consolidated at the Naval Air Station, Lakehurst, and the Naval Air Station, Sunnyvale, was used for a time as a heavier-than-air operating station for the training of landplanes comprising carrier squadrons.*

PERSONNEL

Due to the shortage of regular officers of the Navy available for aviation duty, the training and employment on active duty of reserve pilots, as Naval Aviation Cadets, was authorized by the Aviation Cadet Bill. These cadets, starting with the first class in July, 1935, are being given training at the U.S. Naval Air Station, Pensacola, Fla. In September, 1935, a board of naval officers was convened for the purpose of selecting officers for aeronautical engineering duty only. This step was in conformity with the Act of Congress of July, 1935.

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* For list of notable naval flights see "Operations of United States Naval Forces," pp. 326-330.

AVIATION ESTABLISHMENT

Funds allocated by the National Industrial Recovery Administration and the Public Works Administration have allowed the development of the Naval Air Station and Bases to proceed rapidly. Among the larger projects of this kind were: Corry Field at Pensacola, which was dedicated Dec. 8, 1934; seaplane hangars at the Fleet Air Bases, Coco Solo, C.Z., and Pearl Harbor, T.H., and at the Naval Air Station, San Diego, Calif.; and landplane hangars for the Fleet Marine Force, Quantico, Va. In addition, many necessary and desirable projects are carried in the ''Work Relief'' program, such as repairs and improvements to buildings, paving, railroad tracks, distributing systems, waterfront structures, etc.

On Sept. 26, 1935, the Navy Department announced that the President had approved the joint recommendations of the Secretary of War and the Assistant Secretary of the Navy for an interchange of existing Army and Navy Air Fields, as follows: The Army to turn over to the Navy, Rockwell Field, San Diego, Calif., and the Navy to turn over to the Army, the U.S. Naval Air Station, Sunnyvale, Calif., and the Army to turn over to the Navy that part of Ford Island, Pearl Harbor, T.H., occupied by the Army, and that metes and bounds acceptable to the Army and Navy of that part of the Anacostia Air Field (old Bolling Field), Washington, D.C., now occupied and used jointly by the Army and Navy, be established, and that the station so defined should then be turned over to the Navy.

RECOMMENDATIONS

The following recommendations were made by the Chief of the Bureau of Aeronautics to the Secretary of the Navy:

1. Provide new aircraft of the maximum possible performance in sufficient numbers to:
    (a) Replace obsolescence and crash losses.
    (b) Increase total number of Naval aircraft in accordance with Treaty Navy Program.
2. Provide an adequate number of suitable tenders for patrol planes.
3. Obtain maximum efficiency from Naval Aviation by establishing a Fleet Air Force with a commander directly under Commander-in-Chief.
4. Improve existing carriers and airplane handling facilities on all ships as may be required and found practicable.
5. Establish a Naval Air Station in the San Francisco Bay area with immediate development of patrol plane operating facilities.
6. Continue improvement in performance of aircraft by a well considered experimental program.
7. Provide necessary increases in facilities at shore stations as required by the increases in numbers of fleet aircraft, as recommended by the Shore Station Development Board.
8. Improve the morale, health and efficiency of junior officers attached to the Fleet Air Base, Coco Solo, C.Z., by constructing adequate officers' quarters on the Fleet Air Base.
9. Replace bird class tenders with small fast tenders designed for that purpose.
10. Provide required increases in naval aviation personnel.
11. Continue training of personnel in non-rigid airships pending the report of the special committee appointed by the Science Advisory Board to review the situation regarding dirigibles.
12. Improve the efficiency of the Base Force by assigning the aircraft carrier, *Langley*, to that Force.

IX. DEFENSE AND ARMAMENT

NAVAL EDUCATION

By Carroll Storrs Alden

Professor, United States Naval Academy

THE UNITED STATES NAVAL ACADEMY

An efficient navy today more than ever before requires highly educated officers and men, and their education, which must necessarily be thorough and intensive before they can be really useful in the fleet, continues in some form or other throughout their active service. For the officers it begins at the Naval Academy. This has become practically the only source of supply for officers of the line, and also of the staff, with the exception of the Medical, Dental, and Chaplains' Corps. On account of the extensive building program now in progress, the Navy is requiring a larger personnel. In the recent past each United States Senator and Representative has had at the Academy three midshipman appointees. Last spring Congress increased the number to four, and thus provided for an entering class which numbered at the beginning of the year 857 midshipmen, with 2,022 in all four classes. Entrance requirements continue for the most part the same. Candidates that have been nominated must qualify as to age, being not less than 16 nor more than 20 on April 1 of the year they plan to enter, and they must pass the mental and physical examinations. The mental requirements for admission and the curriculum comprised in the four-years' course are considerably like those of the leading scientific and technological schools. Beginning with June, 1935, candidates who have satisfactorily completed a year's work in an accredited university, college, or technological school, and who have met certain conditions laid down in respect to the courses studied, may be admitted on certificates without other mental examination.

All students at the Naval Academy are designated as midshipmen, and in a qualified sense are officers in the United States Navy. On being sworn in their pay begins—$65 a month, and 75 cents a day for rations. This used with care is sufficient to meet the ordinary expenses and to provide on graduation the outfit of uniforms required for a commissioned officer. The general character of the academic studies included in the four-year course is indicated by the names of the nine departments under which they come: Seamanship and Navigation, Ordnance and Gunnery, Marine Engineering (including also mechanical drawing and naval construction), Electrical Engineering (including also chemistry and physics), Mathematics, English and History, Languages, Economics and Government, and Hygiene. The first four departments listed are distinctly professional, and the instruction they give includes both the theoretical and the practical. Drills have an important place in daily routine in the academic year from the beginning of October to the last of May, and they have yet greater emphasis in the summer schedule. The midshipman in his first summer, spent entirely at the Naval Academy, is taught infantry drill, rowing, swimming, and firing on the rifle range. Two years later, in the summer spent largely at the Naval Academy, he devotes himself to aviation and to engineering. In addition to groundwork instruction he spends about ten hours in airplane flight, when he has charge of almost everything except the handling of the controls. The practice in aviation is diversified by a week's cruise in a destroyer in which only a comparatively small group make the cruise at a time. The midshipman in his second and fourth summers, spent away from the Academy, experiences real sea life as he goes on what has been distinctively known since the Academy's early days as the ''Summer Practice Cruise.'' The two battleships assigned for this purpose in 1935 were the *Arkansas* and the *Wyoming*, and the foreign ports visited were Edinburgh, Oslo, Copenhagen, Gibraltar, and Funchal.

At the Academy, in addition to the

nine departments earlier mentioned, are the Executive and the Physical Training Departments. The former has charge of infantry drills and seeks, as a part of its mission, to inculcate the fundamental ideas of leadership and the exercise of command; the latter teaches swimming, correct posture, symmetrical physical development, and athletic sports. The faculty of the Naval Academy is composed of officers from the fleet, detailed for two or three years as administrative officers or instructors, and also of civilian professors and instructors, who have a fair degree of permanency. Public lecture courses bring university professors and men of affairs distinguished in history, literature, economics, and government to address the midshipmen. The Naval Academy maintains high scholastic standards, but above all else it is a school of leadership. Its aim is to develop military and personal character, to train its students to undertake whatever task may be assigned and to do it intelligently, cheerfully, and well. All midshipmen on graduation are now awarded the degree of Bachelor of Science.

GRADUATE INSTRUCTION AT THE NAVAL ACADEMY AND UNIVERSITIES

Education is completed only in its first phase when graduation from the Naval Academy brings a degree and a commission as ensign. Before each promotion the officer must pass the qualifying examinations, and at fairly regular intervals he has the opportunity to attend special schools for advanced study. Two years after graduation ensigns interested in heavier-than-air aviation and physically qualified go to Pensacola and take an 11-months' course for pilots. Those interested in lighter-than-air aviation go to Lakehurst for their training. During the fiscal year of 1935 a total of 254 officers of the Navy and Marine Corp were under aviation training, and 70 qualified as naval aviators. To meet the needs of the staff corps, officers, after completing their first two years of sea duty, have the opportunity of volunteering, and those selected as assistant naval constructors are sent to the Massachusetts Institute of Technology for three years, those selected as assistant civil engineers are sent to Rensselaer Polytechnic Institute for three years, and those selected as assistant paymasters are sent to the Naval Finance and Supply School for one year. The larger number of officers, after they have completed seven years of sea duty, are detailed to the Postgraduate School of the Naval Academy, Annapolis, where they take the General Line Course. This is to prepare officers for duties as heads of departments aboard ship and for general executive duties. The basic course, the same for all in professional subjects, as well as in Economics, American Diplomatic Policy, and International Relations, is supplemented by study in the field in which the officer is majoring: Ordnance Engineering, Aeronautical Engineering, Marine Engineering, Radio Engineering, Communications or Aerology. A limited number continue at the school for a second year of specialization, and a still smaller number are given a third year at various graduate schools of universities or technological schools. Certain ones on duty in the Judge Advocate General's Office, Washington, are designated to take a three-year course in law at George Washington University. A few specially qualified are sent to the Orient for a three-year course in the Japanese language or Chinese; and a few also to Riga for a study of the Russian language. A large number, further, receive instruction so that they may have especial skill in one or more of the following: submarines (New London, Conn.), torpedoes (Newport, R.I.), optical instruments (Navy Yards, Washington, D.C. and Mare Island, Cal.), and gyro compass (Navy Yards, New York, and Mare Island, Cal.)

THE NAVAL WAR COLLEGE

Three courses are now offered at the Naval War College at Newport: the junior course (for officers below the rank of commander) in the minor operations of war; the senior course (for commanders, captains, and rear admirals) in handling and maintaining large fleets over extended theaters of war and in fleet engagements; and the advanced course (for senior captains and flag officers) in planning and in joint army and navy operations. A few army and marine officers each year are enrolled in the classes at the Naval War College at Newport, and a few naval and marine officers at the Army War College at Washington, D.C. Also there are the Naval War College correspondence courses, offered to the officers in the fleet and at shore stations for instruction in War College methods.

INSTRUCTION OF ENLISTED MEN

In training the recruits not only have the stations at Hampton Roads, Va., and San Diego, Cal., been kept busy but the stations at Newport, R.I., and Great Lakes, Ill., closed during slack years, have again been actively employed. The initial course for all extends over 12 weeks and deals with the following: (a) personal cleanliness, (b) care of clothing, (c) infantry drill, (d) rowing, (e) swimming, and (f) small arms. Upon its completion, a certain number who have shown especial aptitude are selected for the service schools to receive training as will be indicated. Others are sent aboard ship where their training continues for four weeks; they are then advanced from the rating apprentice seaman to seaman second class or fireman third class.

There are three classes of service schools. ''Class A Schools'' provide elementary instruction to recruits that will make them immediately useful and give them the groundwork necessary for the lowest petty officer ratings. The length of courses is from 16 to 20 weeks. One group is studying for ratings such as electrician's mate, gunner's mate, torpedo man, etc.; another for ratings as radio-man, quartermaster, yeoman, etc., and still another for ratings as machinist's mate, blacksmith, aviation carpenter's mate, etc. ''Class B Schools'' supplement the training afloat by giving the men advanced instruction ashore. Courses, from 6 to 40 weeks' duration, are in torpedo, gyro compass, cooking, stenography, electrical interior communication, fire control, etc. ''Class C Schools'' give advanced training for particular duty assignments in subjects not normally a part of shipboard instruction. Courses from four to 35 weeks' duration, are for the following groups: radio material, deep sea diver, pharmacist's mate and hospital apprentice, aerographer, aviation mechanic, submarine, etc. Two new schools for enlisted men have been established during the year: the Diesel Engineering School at New London, Conn. (course eight weeks in length) and the U.S. Navy School of Music at Washington, D.C. (course two years). Included in the Class C division is the Naval Academy Preparatory School, at the Naval Training Station, Norfolk, Va. The law provides that 100 enlisted men, if they can qualify in all particulars, shall be appointed midshipmen in the Naval Academy. As they must pass the same examinations as other candidates, this school gives them a needed opportunity for preparation.

THE NAVAL RESERVE

The Naval Reserve has been designed to provide the officers and men necessary in the event of war for the expansion and operation of the U.S. Fleet and Naval Transportation service during the first 120 days after mobilization. The various schools and training stations now in existence, together with those that will be established on the outbreak of war, are expected to supply the Navy's needs after that time. The quotas for the various classes of the Naval Reserve have been established on this basis. On June 30, 1935, its personnel numbered 9,571 officers and 33,351 men. It is divided by law into three classes: The Fleet Naval Reserve, the Volunteer Naval Reserve, and the Merchant Marine Naval Reserve.

Reserve officers training corps units have been established at Harvard, Yale, Northwestern, Georgia School of Technology, University of California, and University of Washington, and a maximum of 200 undergraduates may be enrolled at each institution. The naval course is elective, and credits count for the bachelor's degree. Students have been given practice cruises as follows: On the East Coast, the sophomores and juniors from Harvard University, Yale University, the Georgia School of Technology, and Northwestern University cruised in destroyers to Puerto Rico, Virgin Islands, and Guantanamo Bay, Cuba. On the West Coast, the freshmen and sophomores from the University of Washington and the University of California cruised in the U.S.S. *Tennessee* to Honolulu. The juniors from the University of Washington and the University of California cruised in destroyers to Alaska.

There were 226 graduates of the Naval Reserve Officers' Training Corps in June, 1935. Of this number, 207 were commissioned in the U.S. Naval Reserve; six were commissioned in the U.S. Marine Corps Reserve; three were enrolled in the Naval Reserve Aviation Corps, and one entered the Coast Guard.

ADVANCEMENT

Whether it is the education of the midshipman, the officer, or of the enlisted men that is considered, it is never finished, and the advancement of each is dependent in no small degree on his ability to see what lies beyond and to master that. Related to this is the principle of selection, which extends almost throughout the entire organization. Of candidates for appointment as midshipmen in the Naval Academy, only about one in three who take the entrance examinations succeed in passing, and then the physical examination takes its toll, one or more out of 12 being rejected. In June 1935, 442 midshipmen were graduated, this out of a class that at entrance numbered (with addition from other classes) 610. Of these 370 were commissioned ensigns in the line, and 26 second lieutenants in the Marine Corps which is approximately two out of three of all those that originally entered. The larger number of those who fell by the wayside were separated fairly early in the course from their class for scholastic or physical deficiencies and other reasons, and 34 voluntarily resigned on graduation. Major and minor hazards, not least the selection boards, will threaten or spur on the 370 ensigns as they advance to the rank of lieutenant (junior grade), lieutenant, and lieutenant commander. Those who survive selection, natural and legislative, till they reach the rank of captain or rear admiral must show unusual ability, fitness, and vigor. Among the enlisted men, selection begins right with the recruiting office. So many young men have in the present period applied for enlistment that only about one in 20 can be accepted. The quality of those now being chosen is shown by reports from the training stations and the fleet. Eighty-six per cent of those accepted in 1934 had completed one year or more in high school (in contrast with 42.3% in 1926). There has been a marked reduction in turnover and also a reduction in avoidable losses. Losses from desertion, various types of discharge, and all other causes, except death, in 1929 was 15.7%; in 1934 it was only 4%. The gain, however, that has been most important of all to the Service consists in the increased efficiency of its personnel.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

SERVICE SOCIETIES

American Legion, National Headquarters, 777 N. Meridian Street, Indianapolis, Ind.

American Remount Assn., 810 18th Street, N. W., Washington, D. C.

Army Ordnance Assn., Mills Bldg. 17th St. and Pennsylvania Ave. Washington, D. C.

Association of Military Surgeons of the United States, Army Medical Museum, Washington, D. C.

Chemical Welfare Service, Edgewood Arsenal, Maryland.

Military Training Camps Assn., 19 W. 44th Street, New York City.

Navy League of the United States, 1749 E Street, N. W., Washington, D. C.

Quartermasters' Assn. of the United States, 923 15th Street, N. W., Washington, D. C.

Reserve Officers Assn. of the United States, 1653 Pennsylvania Ave., N. W., Washington, D. C.

Society of American Military Engineers, 808 Mills Bldg., Washington, D. C.

Society of Naval Architects & Marine Engineers, 29 W. 39th Street, New York City.

United States Cavalry Assn., 1624 H Street, N. W., Washington, D. C.

United States Field Artillery Assn., 1624 H Street, N. W., Washington, D. C.

United States Infantry Assn., 1115 17th Street, N. W., Washington, D. C.

United States Naval Institute, Annapolis, Md.

PATRIOTIC AND HEREDITARY

Colonial Dames of America, 421 E. 61st Street, New York City.

Daughters of 1812 U. S. National Society, 108 Iona Ave., Narberth, Pa.

General Organization, Sons of Confederate Veterans, 609 Law Bldg., Richmond, Va.

Founders and Patriots of America, Lexington Ave. and 48th St., New York City.

National Society of the Daughters of the American Revolution, Memorial Continental Hall, Washington, D. C.

Military Order of Foreign Wars of the U. S., 140 Nassau Street, New York City.

Military Order of the Loyal Legion, 140 Nassau Street, New York City.

Military Order of the World War, 30 West 44th St., New York City.

National Security League, 45 West 45th Street, New York City.

National Society of the Sons of the American Revolution, 1227 16th St., N. W., Washington, D. C.

Naval and Military Order, Spanish-American War Veterans, 184 State House, Boston, Mass.

Pilgrim Society, Pilgrim Hall, Court Street, Plymouth, Mass.

Society of the Cincinnati, 136 W. Lanvale Street, Baltimore, Md.

Society of Colonial Wars, 122 E. 58th Street, New York City.

Society of Mayflower Descendants, 120 E. 71st Street, New York City.

Sons of Union Veterans of the Civil War, Reading, Pa.

United Confederate Veterans, 8234 Sycamore St., New Orleans, La.

PART FOUR

ECONOMICS AND BUSINESS

DIVISION X

BUSINESS AND FINANCE

ECONOMIC AND BUSINESS CONDITIONS

By S. S. Huebner

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FACTORS IN RECOVERY FROM THE DEPRESSION

It is now apparent that the bottom of the present memorable depression was reached in 1932. As previously explained, the business improvement of 1933 and 1934 could only be characterized as slightly better. However, during 1935, and especially during the last half of the year, most of the important indices of trade have shown a distinct and consistent improvement, while in certain directions, like retail business and automobile manufacturing, operations reached the proportions of fairly good times. The chief laggards still are the heavy industries, but even here there was a reawakening which seems to augur well for the future. As a whole, as explained by the Alexander Hamilton Institute's *Business Conditions Weekly* (Dec. 28):

''It is evident that when final reports are available they will show that 1935 has been the third successive year of improvement in economic conditions. At the same time, they will show that full recovery is still a considerable distance away. A preliminary estimate indicates that the national money income produced in the United States in 1935 was 9.7 per cent larger than in 1934, 46.7 per cent larger than at the depression's low in 1932 but 33.1 per cent smaller than in the pre-depression year 1929.

''Part of the recovery in the national money income during the past three years, however, was absorbed by a rise in the price level. Consequently, real income showed less of a gain than money income. Real income produced in 1935 was only 2.8 per cent larger than in 1934 and 18.9 per cent larger than in 1932.

''The failure of the real income produced in the nation in 1935 to show more than an 18.9 per cent increase over the low for the depression was due entirely to the smaller output of agricultural products as the result of the drought in 1934 and the Government's restriction of agricultural output. The quantity of agricultural products, especially meat, which came to market in 1935, was smaller than in any year of the depression.''

Aside from the agricultural situation just referred to, most basic manufacturing and mining industries enjoyed a moderate increase in volume of business, as well as in the price of their products. Building award figures, which were in the depths of depression during the preceding three years, took a substantial leap upwards, although some of the improvement is clearly attributable to governmental awards and governmental aid. Pig iron production showed a moderate increase, although the total is still far behind the record of predepression years. Commodity index numbers, as well as employment and payroll indices, as explained later, also showed moderate improvement as compared with the record of 1934. The business failure record of 1935 maintained the remarkable showing of 1934 with respect to both number and size of business failures, and in this connection gave further unmistakable evidence that the drastic liquidation of a severe major depression had run its course. Railroad traffic and earnings also picked up in a moderate way, and the same may also be said for exports and imports.

New capital financing continued during the year in a state of stagnation, although the showing was somewhat better than during the previous year. Dividend distributions on the part of industrial corporations improved considerably, but the same cannot be said for the railroads. Bank clearings for 1935 amounted to $273,000,000,000 as compared with $261,000,000,000 for 1934, or an increase of 4 6/10 per cent. As compared with 1934, the volume of share transactions on the New York Stock Exchange was larger by only 53,00,000 shares, or 16 per cent.

SUMMARY OF 1935 CONDITIONS

Taken as a whole, business conditions during 1935 may best be summarized by stating that the real gain during the year was derived from factory, merchantile and mine output. As summarized by *The Guaranty Survey* (Dec. 30, 1935)

''An increase of 64 per cent in earnings of 259 industrial and mercantile concerns in the third quarter of this year, as compared with the corresponding period of 1934, is reported in the current monthly review of the Federal Reserve Bank of New York. The increase in earnings reflected a substantially higher level of business activity than a year ago. In the case of basic industrial production, the gain amounted to 20 per cent. Earnings were larger than in the corresponding period of any other year since 1930 but were about 25 per cent below the level of that year. It is significant that the largest percentage increases in profits were reported by the machinery and tool group, with profits more than three times as large as a year ago, and the electric equipment companies, which doubled their earnings during the interval. These two groups of companies constitute an important section of the durable goods industries, in which the depression has been particularly severe and unemployment correspondingly large.''

Probably the brighest spot in the 1935 record was the continuous bull stock market during the past nine months. All major groups of securities participated in this rise. Railroad shares (using the Babson averages) appreciated from an average low of 27.31 in March, 1935 to an average high of 39.38 in November, an increase of approximately 44 per cent. During the same period industrial stocks experienced an increase from 96.71 to 148.44, an increase of over 54 per cent. Mining stocks, likewise, appreciated during that period from 17.4 to 21.5, an increase of over 17 per cent. Throughout the nine months in question, the rise was steady and without a single set-back of worthwhile proportions. Such a rise has greatly increased confidence for the future. It is not so much a question of what business is doing for the moment. The stock market is a discounter of future business conditions, and from that standpoint the rising market of 1935 has greatly helped to arouse high hopes for 1936. (See also ''The Security and Money Markets'' p. 353.)

CONDITIONS IN INDUSTRIAL GROUPS

Agriculture.—Most of the indices of trade will be referred to under the headings of ''Leading Indices of

Trade'' and ''Index Prices.'' Brief reference, however, may be made to business conditions prevailing in certain of the leading groups of industries not usually represented in regularly printed and commonly used index tables. Thus with respect to agriculture a substantial maintenance of the price level has occured during the year, and in conjunction with a sizeable increase in volume. The price for wheat (No. 2 red winter Chicago) increased from Dec. 1 1934 to December 1, 1935 from 103¼ cts. to only 104¼ cts., but the production for the year showed an increase for all kinds of wheat of approximately 107,000,000 bushels. The price of corn (No. 2 mixed Chicago) during the same period declined from 96 5/8 cts. to 58 3/8 cts. But this large decline in price is probably largely attributable to an increase of 825,000,000 bushels in production, as compared with 1934. Cotton decreased in price from 12.77 to 11.47 cts., but this is due in part to an increase in volume of production of from 9,636,000 bales in 1934 to 10,734,000 bales in 1935. The price of cattle (choice native steers Chicago) shows a substantial rise, namely, from $7.45 per 100 lbs. to $9.45, and the price of hogs from $5.90 to $9.40. Here a deliberate governmental policy of curtailment in production had been consistently pursued during the year, and was no doubt instrumental in raising prices.

Manufacturing and Mining Industries.—The output of product is more subject to control than in agriculture, the price changes during the year having been much more moderate. Comparing December of 1935 with the same month of 1934, the following price changes may be selected from the many listed in *The Guaranty Survey:* Bituminous coal (Pittsburgh) from $2.15 a ton in 1934 to $1.90 in 1935; copper (New York) from 7.62½ cts. per lb. to 9.12½ cts.; hides (Chicago) from 11 cts. per lb. to 14¾ cts.; pig iron (Pittsburgh) from $18.00 a ton to $19.00; steel billets (Pittsburgh) from $27.00 a ton to $29.00; lead, (New York) from 3.60 cts. per lb. to 4.50 cts.; petroleum (Oklahoma-Kansas City) $1.02 per bbl. unchanged to $1.02; rosin (Savannah) $4.50 per 280 lbs. to $4.25; rubber (New York) 12 7/8 cts. per lb. to 13 cts.; silk (New York) $1.42½ per lb. to $1.92; sugar (New York) 2.63 cts. per lb. to 3.10 cts.; tin (New York) 50.92½ cts. per lb. to 49.85 cts.; zinc (St. Louis) 3.70 cts. per lb. to 4.85 cts.; and wool (Boston) 68 cts. per lb. to 83 cts.

Railroads.—THE AMERICAN YEAR BOOK in issues for the past two years has explained the unfortunate position of the railroads, pointing out that this important industry, out of all of the nation's pivotal businesses, probably suffered as great reverses as any. For 1935, however, a better showing is indicated although the improvement is still moderate. Average weekly revenue freight car loadings for November, 1935 totalled 635,809, as compared with 568,269 for the corresponding month of 1934, and with 591,524, 548,602, and 654,926 for the same month of 1933, 1932 and 1931. Railroad gross earnings per mile for October, 1935 (the latest available) stood at $1,435 as compared with $1,225 for October 1934 and $1,236 for 1933. Net earnings per mile for October 1935 are reported at only $457, as compared with $337 for October 1934 and with $337 for the corresponding month in 1933, $406 in 1932, $421 in 1931, $648 in 1930, $846 in 1929, and $897 in 1928.

Construction.—In the field of building construction, conditions took a very substantial turn for the better as compared with the alarming conditions of the preceding three years. Last year the F. W. Dodge Corporation's reports for new building contracts awarded for November, 1934 totalled only $111,740,000, whereas for the corresponding month of 1935 (the latest available) the total is reported at $188,115,000. For the first 11 months of 1935 the total of building awards stood at approximately $2,058,106,000 as compared with $1,451,000,000 for the corresponding period of 1934, $1,048,000,000 for 1933, $1,270,000,000 for 1932, $2,955,000,000 for 1931, $4,274,000,000 for 1930, and $5,438,000,000 for 1929. The low totals of 1933, 1934 and 1935 would probably be even smaller were it not for the artificial aids extended by the Federal Government.

Federal Reserve Index.—The present situation in other outstanding lines of business endeavor may be indicated by the latest available industrial figures (Index Number of Federal Reserve Board, adjusted for seasonal variations, and with the 1923-25 average = 100). This index shows the following for September, 1934 as compared with September, 1935: Manufactures (total) 69 compared with 89; iron and steel 38 as compared with 84; textile 63 as compared with 106; food products 120 as compared with 78; paper and printing 65 with 62; transportation equipment, automobiles, 51 as against 50; leather and products 88 and 102; cement and glass 50 and 47; petroleum (crude) 122 and 135; bituminous coal 64 and 58; coke 73 and 95; petroleum refining 152 and 172; rubber tires and tubes, 79 and 83, (July); tobacco products 125 and 129; minerals (total) 82 and 87. The foregoing list fairly indicates the variations in the progress of this year as compared with 1934. Substantial progress can be detected, although the improvement is spotty, some activities having forged ahead very materially during the year while about an equal number have declined moderately or have just been able to hold their own.

RESUMÉ OF OTHER LEADING INDICES OF TRADE

New Capital Financing.—A brief resumé of the leading indices of trade for 1935, aside from the financial and security market indices already referred to in another section, will also serve to show that business conditions during 1935 experienced a substantial improvement in most directions. New capital financing for 1935 (11 months) totalled $340,842,475 as compared with $143,396,799 for the corresponding period of 1934, and with yearly records of $160,717,179 for 1933, $325,361,625 for 1932, and $1,763,448,723 for 1931. The 1935 record, in other words, is more than twice that of the extremely poor year of 1934. Evidently there is a tendency to revive from the stagnation of recent years, and commentators are hopeful for a continuation of such progress, especially in connection with the heavy industries. Sight must not be lost of the fact that the record of 1933 and 1934 represented only about 2 per cent of the new capital financing which occurred during 1929, when an all-time high record was established. Despite a large percentage improvement during 1935, we have still far to go to reach normal figures.

CORPORATE FINANCING

	1934		1935	
	Capital	Refunding	Capital	Refunding
January	$ 5,983,000	$ 1,500,000	$ 5,267,000	$ 2,459,000
February	13,058,000	2,308,000	6,500,000	23,291,000
March	13,770,000	12,569,000	7,945,000	112,220,000
April	28,241,000	59,283,000	21,988,000	133,890,000
May	28,823,000	2,958,000	45,193,334	81,566,666
June	9,420,000	23,747,000	13,676,000	115,488,000
July	20,279,000	125,500,000	55,089,670	486,885,330
August	8,019,000	10,000,000	29,794,800	180,066,700
September	4,387,000	10,000,000	45,086,920	230,767,000
October	390,000	31,000,000	73,002,811	179,392,421
November	8,226,700	21,573,300	32,288,860	217,214,540
December	34,861,150	12,398,000	....	....

(Source of Data—*Survey of Current Business*)
(Source of Data—Babson's Statistical Service)

YEARLY TOTALS

	Capital	Refunding
1935	$ 335,932,395	$1,763,241,457*
1934	178,257,949	312,836,500
1933	160,717,178	220,866,478
1932	325,361,625	318,533,720
1931	1,763,448,723	825,516,700
1930	4,944,403,166	528,875,877
1929	8,639,439,560	1,386,921,569
1928	6,079,602,416	1,738,274,615
1927	5,391,008,544	1,928,187,260
1926	4,357,002,720	942,550,970
1925	4,100,725,167	637,384,524
1924	3,322,295,764	516,275,300
1923	2,712,996,155	530,345,942

* For eleven months.

Foreign Trade.—Exports of merchandise during the first 11 months of 1935 (latest figures obtainable at time of writing) totalled $2,058,299,000 as compared with $1,962,693,000 for the same period of 1934, and with yearly averages of $1,675,000,000 for 1933, $1,611,000,000 for 1932, $2,424,000,000 for 1931, $3,843,000,000 for 1930, and $5,241,000,000 for 1929. In the case of imports of merchandise there has also been a substantial increase, the 11 months total being $1,861,137,000 as compared with $1,522,797,000 for the corresponding period of 1934, and with yearly averages of $1,449,000,000 for 1933, $1,323,000,000 for 1932, $2,091,000,000 for 1931, $3,061,000,000 for 1930, and $4,399,000,000 for 1929. Here, again, it is apparent that foreign trade figures have still far to go to reach the condition of normalcy as indicated by previous years.

Steel.—Steel production of ingots for 1935 (11 months) totaled 30,343,729 tons compared with 23,312,000 tons and 20,796,000 tons for the corresponding periods of 1934 and 1933, and with yearly production records of 13,322,000 tons for 1932, 25,192,715 tons for 1931, 39,286,000 tons for 1930, and 54,312,000 tons for 1929. While 1935 shows an increase of approximately 30 per cent over 1934, the record is still far behind that of previous years of normal prosperity. It should also be noted that the increase has not been accompanied by any material increase in the price of pig iron. During the year the price level of No. 2 Southern has increased from only $19.13 for January to $20.01 for November.

Business Failures.—Last year's account referred to the 1934 record of business failures as one of the few bright spots of the year. The maximum in business failures was reached in 1932 with a total of 31,822 (Bradstreet and Dun average). For 1933 the showing was decidedly better, the total number of failures standing at only 20,307. During 1934 the number was reduced enormously, namely, to 12,185. Again, during the present year (11 months) the total is down to 10,939, compared with 11,222 for the corresponding months of 1934. The same favorable showing is also apparent with respect to total liabilities connected with failures. For 11 months of 1935, these liabilities amounted to only $202,678,237, as compared with $243,000,000 and $475,000,000 for the corresponding months of 1934 and 1933, and with yearly totals of $928,000,000 for 1932, $736,000,000 for 1931, $668,000,000 for 1930, and $488,000,000 for 1929. The year 1935 again clearly gives evidence, as did 1934, that the liquidation of this depression has substantially run its course, and that the bankruptcy situation, as regards both number and amount of liabilities, is the best for any year since 1919.

Dividend Payments.—With respect to industrial and railroad dividends, the showing for 1935 is somewhat better than that reported for 1934. The poorest record in this depression was registered in 1933, when dividends for industrial and miscellaneous corporations, not including banks, (as reported by the New York Stock Exchange *Bulletin* for December, 1935) stood at $2,007,175,675, and for railroads at only $170,738,433. During 1934 these two totals rose respectively to $2,279,152,208 and $192,669,269. For 11 months of 1935 (latest available) industrials dividends totalled $2,336,901,629, and for the railroads $177,036,823, compared with $2,070,000,000 and $170,000,000 for the corresponding months of 1934, and with yearly averages for industrial dividends of $2,414,000,000 for 1932, $3,535,000,000 for 1931, $4,088,000,000 for 1930, and $3,700,000,000 for 1929, and for railroad dividends of $184,000,000 for 1932, $419,000,000 for 1931, $550,000,000 for 1930, and $552,000,000 for 1929.

COMMODITY PRICE INDEX NUMBERS

Using the Bradstreet index for wholesale prices, 1934 witnessed a moderate rise from 8.83 in January to 9.29 in December. This represented a very substantial rise from the low of 6.79 for December of 1932. During 1935 this index rose still further, beginning with 9.49 in January and standing at 10.28 for November, the last monthly average available. Every month exceeded 9.49, the variation following January ranging between a minimum of 9.66 (for April) and 10.28 (for November). The Bradstreet average for the whole year is 9.92, compared with 9.22 for 1934, 7.86 for 1933, 7.09 for 1932, 8.75 for 1931, 10.74 for 1930, and 12.66 for 1929. Similarly, a slightly rising tendency is shown by the United States Department of Labor Index Number. Beginning with 78.8 for January, this number rose to 80.7 for September (latest available). Between January and October the British Board of Trade Index Number also rose from 88.3 to 91.1.

INDEX NUMBERS OF COMMODITY PRICES

	U. S. Dept. of Labor		Bradstreet		U. K. Board of Trade	
	1934	1935	1934	1935	1934	1935
January	72.2	78.8	8.83	9.49	88.8	88.3
February	73.6	79.5	9.01	9.78	89.2	88.0
March	73.7	79.4	9.26	9.80	88.2	86.9
April	73.3	80.1	9.17	9.66	87.7	87.5
May	73.7	80.2	9.16	9.80	87.2	88.2
June	74.6	79.8	9.14	9.91	87.9	88.4
July	74.8	79.4	9.24	9.84	87.3	88.0
August	76.4	80.5	9.32	9.92	89.0	88.4
September	77.6	80.7	9.48	10.01	88.4	89.6
October	76.5	......	9.46	10.18	87.8	91.1
November	76.5	......	9.28	10.28	87.5	......
December	76.9	......	9.29	10.40	87.8	......

(Source of U. S. Dept. of Labor—*Survey of Current Business*)
(Source of Bradstreet—Standard Trade and Securities, Statistical Bulletin)
(Source of U. K. Board of Trade—*Board of Trade Journal*)

YEARLY AVERAGE

(Bradstreet)

1903	7.94
1904	7.92
1905	8.09
1906	8.41
1907	8.90
1908	8.00
1909	8.51
1910	8.98
1911	8.7129
1912	9.1867
1913	9.2115
1914	8.9985
1915	9.8531
1916	11.8236
1917	15.6385
1918	18.7117
1919	18.6642
1920	18.8096
1921	11.3695
1922	12.1186
1923	13.4028
1924	12.8672
1925	13.9445
1926	13.0207
1927	12.7788
1928	13.2824
1929	12.6685
1930	10.7450
1931	8.7596
1932	7.0956
1933	7.86
1934	9.22
1935	9.92

LABOR CONDITIONS

With respect to labor conditions, 1935 indicates only a moderate improvement over the close of 1934. Referring to the industrial bulletin of the New York State Department of Labor on *Employment in New York Factories*, the percentage of employment increased from 71 in January to 77 in November (latest available), and the payroll from 58 to 64. These employment figures compare with 71 for December and 66 for January of 1934, and the payroll figures with 58 for December and 52 for January of that year. As a matter of interest, the low figures for both employment and payroll were reached in July of 1932, the former standing at 52 and the latter at 39. (see "Labor Conditions" p. 559, also Employment Conditions" p. 564.)

THE SECURITY AND MONEY MARKETS

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GENERAL CONDITIONS IN THE SHARE MARKET

Bull Movement.—The security market of 1935 was marked by one of the most consistent bull movements in stock prices on record. Whereas practically all of 1934 was marked by a succession of ups and downs, without any particular trend, that indefiniteness seemed to have spent its force by April of 1935. From April to the end of 1935, the stock market has shown a steady advance, without, however, much of an increase in the volume of transactions. During nine months there was hardly a reaction of moment. The rise was gradual and the volume of transactions at all times moderate. But the end of the year showed the market advanced to the highest level since 1931. Most commentators regard the market action of the last nine months as a most unique exhibition, and express generally a feeling of optimism, sharing the belief that the steady and uninterrupted rise over so long a period is indicative of the market's discounting of better times.

Liquidation, because of weak accounts, seems to have been practically absent. The Securities and Exchange Act seems to have had little influence one way or another. Funds for speculation, usually the backbone of previous bull markets, were exceedingly plentiful at all times, yet the increase in brokers' loans was moderate. Apparently the fearful liquidation of 1929-32, and the lesser liquidation of 1933-4, had run their course. Those still in possession of their securities were capable of holding them, and had the desire to do so. Others, however, motivated by the all too apparent improvement in business, also participated in the making of investment purchases. These two forces brought about the consistency of the long rise, and at the same time were not conducive to the occasioning of a heavy turn-over. Clearly, the short interest, as well as the speculative group, interested in frequent turnovers for successive profits, derived little comfort from the 1935 market. Instead, it was a market of very substantial profit for those who hold their stocks and who operate for the long pull.

Group Advances.—The extent of the rise during 1935 may be indicated by the averages of the Standard Statistics Company. According to this index 20 railroad stocks rose from 30.83 in March to 36.88 in October, 50 industrial stocks from 79.61 in March to 109.94 in October, 20 utility stocks from 43.11 to 74.40, and 60 bonds from 83 to 90.3 in November. Since that time the stock level in each of the aforementioned three divisions has gained slightly more, although the monthly averages are not available at the time of writing. But it should again be remembered, as was pointed out last year, that the present price level is in dollars representing a devaluation of slightly over 40 per cent as compared with the dollar before its devaluation. In other words, a proper interpretation of the rise since 1932, the apparent low in this depression, must not leave out of consideration the fact that the present quotations reflect a larger number of the smaller dollars to counteract the devaluation which occurred in the precious metal of our medium of exchange since the hectic days of 1932.

Attention must also be directed, as was necessary last year, to the unevenness of the rise as regards the various groups of stocks. In other words, the market was highly selective, and various groups of stocks showed a substantial realignment in prices. Certain groups, like various metal stocks, motor stocks, electric stocks, and merchandise stocks did exceedingly well, and in numerous instances showed appreciation in individual issues of 100 per cent or more. Railroad stocks, on the contrary, showed a very modest appreciation extending, according to the aforementioned index, from only 30.83 to 36.88. Utility stocks, owing to the widespread fear engendered by the drastic utility legislation before the last session of Congress, were depressed abnormally during the early part of the year, declining from an average price of 69.30 in June, 1934 to 50.88 in December of that year, and to 43.11 by March of 1935. Following allayment of the fright, however, a vigorous rebound occurred after March, which extended to an average price of 74.40 for October, 1935.

Share Values.—As was explained last year, the New York Stock Exchange *Bulletin* (December, 1935), placed the total market value of listed stocks on the New York Stock Exchange at $33,933,882,614 on Jan. 1, 1935. Subsequently this market value declined to $30,936,100,491 for April 1935. Thereafter there was a consistent monthly increase to the end of the year. In round figures the consistency of the rise is indicated by the following totals: for May 33½ billions; June, 34½ billions; July, 36¼ billions; August 38 9/10 billions; September, 39 8/10 billions; October, 40½ billions; November, 43 billions; while for Dec. 1, 1935 the total market value stood at $44,950,590,351. This represents an increase of over $14,000,000,000, as compared with April of the year, or slightly over 45 per cent. The average monthly stock price index, as published by the New York Stock Exchange *Bulletin,* ranged from 36.41 in January, 1935, to 34.73 for April, 36.86 for May, 38.92 for July, 41.91 for September, 44.30 for November, and 45.85 for December. These averages compare with the following December averages for preceding years as follows: 35.59 for December, 1934, 32.78 for 1933, 25.61 for 1932, 34.24 for 1931, 55.53 for 1930, 68.44 for 1929, and 97.80 for 1928.

Bond Values.—All American bonds listed on the New York Stock Exchange showed a total market value of $34,534,557,104 on Jan. 1, 1935. This value was maintained almost exactly until May, the total value standing at $34,256,000,000 on the first of that month. Since that time however the total value sank gradually but not severely. By Dec. 1 the aggregate market price was $32,780,744,410, a decline of $1,475,000,000 since May 1. Toward the close of the year (Dec. 1) the average price for 1,115 issues stood at 93.69, which compares with 93.94 and 92.57 for July 1 and Jan. 1 of the year, and with the following for Dec. 1 of previous years: 91.68 for 1934, 82.98 for 1933, 81.36 for 1932, 84.13 for 1931, 96.51 for 1930, 96.80 for 1929, 98.61 for 1928, and 101.26 for 1927.

VOLUME OF STOCK TRANSACTIONS

As was the case during 1934, the year 1935 may again be described as one of comparative dullness, the volume of transactions being but slightly larger than during the inactive year of 1934. This is particularly surprising in view of the long sustained and consistent bull market during the last nine months of the year. The monthly record of sales during the first four months of the year ranged between only 14,500,000 to 44,500,000 shares a month. Thereafter, only four months showed sales in excess of 40,000,000 shares, namely, August, October, November and December. Whereas 1934 witnessed four and five-million share days occasionally, there was rarely a three-million share day during 1935.

Shares sold on the New York Stock Exchange totalled only 381,666,197 for 1935 (as reported by *The New*

York Times), as compared with 328,836,634 for 1934, 654,874,840 for 1933, 424,000,000 for 1932, 577,000,000 for 1931, 810,000,000 for 1930, 1,124,000,000 for 1929, and 317,000,000 for 1919, the highest record of the preceding industrial cycle. But as previously explained, the huge rise in the number of shares dealt in during 1929 and 1930 is partly attributable to the substantial increase in the number of additional shares listed on the New York Stock Exchange, such increase being indicated by the fact that, whereas the number of listed shares totalled 655,000,000 in 1928, the total increased in 1929, 1930, and 1931 respectively to 757,000,000, 1,128,000,000 and 1,296,000,000. The volume of transactions during 1933 and thereafter, however, is not influenced by this factor. At the beginning of 1932 the total shares listed on the New York Stock Exchange amounted to 1,318,000,000, whereas at the present time (Dec. 1, 1935) the total stands at only 1,209,000,000. On the New York Curb Market 1935 sales also showed much the same tendency, the total sales standing at 75,850,188 (*The New York Times* report) as compared with 59,888,426 for 1934, 100,736,000 shares for 1933, and 56,997,581 shares for 1932. The 1935 total compares with 110,000,000 shares for 1931, 222,000,000 for 1930, and 474,000,000 during 1929.

STOCK PRICES

Railroad Shares.—In conformity with the practice of previous years, the movement in stock prices for different groups of shares may be illustrated with Babson's composite price for different groups of selected stocks. Thus using the list of 20 representative railroad stocks, the average high for January, 1935 was 37.26. By March, however, this monthly average had fallen to 31.10, while the average low for that month was 27.31. Following March, every month, except October, showed a successive increase over the previous month in the average high price. Stated by months, this average stood at 31.61 for April, 32.09 for May, 33.93 for June, 35.25 for July, 36.98 for August, 37.25 for September, 35.04 for October, and 39.38 for November, the last monthly average available at the time of writing. The November average of 39.38 compares with a corresponding average of 37.26 for January of the year, and with yearly averages of 43.89 for 1934, 41.44 for 1933, 31.62 for 1932, 81.91 for 1931, 137.82 for 1930, and 165.83 for 1929. During 1929 it should be noted that these railroad shares reached the highest monthly level during September, namely, 189.11. Comparing this 1929 September high average with the 1932 low average of 13.23, it appears, as was explained last year, that these railroad shares declined within the three years under consideration by over 92 per cent. The November, 1935 average of 39.38, compared with the 1932 low monthly average of 13.23, shows an appreciation of about 200 per cent. Yet this November, 1935 average, compared with the September high of 1929 (189.11), still shows a depreciation of nearly 80 per cent.

Industrials.—In industrial stocks the advance in prices during 1935 has been greater by far than was the case with the railroads. Again taking Babson's composite price for 30 leading representative industrial stocks for illustrative purposes, representing the leaders in their respective lines, it appears that the January average high for 1935 stood at 105.88, and for March at 103.27. Thereafter, however, the average increased consistently with only a minor setback in June, the monthly high averages being for April 110.47, May 116.81, June 109.74, July 118.69, August 124.93, September 127.27, October 128.06 and November 141.07. The November average of 141.07 compares with yearly high averages of 102.02 for 1934, 89.76 for 1933, 71.24 for 1932, 149.86 for 1931, 248.90 for 1930 and 329.09 during 1929. During 1929, it should be noted that this industrial list reached the highest monthly level during September, namely, 381.17. Comparing this 1929 September high average with the 1932 low average of 41.22, it appears that these industrial shares declined within the three years under consideration by nearly 90 per cent. The November high average of 141.07 for 1935, compared with the 1932 low average of 41.42, shows an appreciation of about 244 per cent. At the same time, however, it should again be borne in mind that the November, 1935 average, compared with the September high of 1929, still shows a depreciation of about 63 per cent.

Mining Shares.—A smaller degree of appreciation is shown in the mining group of shares. According to Babson's composite price for 20 leading and representative mining stocks, the January average price for 1935 stood at 17.6 and for March at 17.4. Following March, a moderate but well sustained advance occurred within this group. For April the average price rose to 18.2 and for succeeding months the average stood at 19.9 for May, 19.4 for June, 19.3 for July, 19.3 for August, 20.1 for September, 20.0 for October, and 21.5 for November (the latest average available). The November, 1935 average of 21.5 compares with yearly averages of 18.8 for 1934, 13.8 for 1933, 7.6 for 1932, 16.5 for 1931, 36.1 for 1930, and 74.3 for 1929. During 1929, the Babson list of mining shares reached the highest monthly average during March, namely, 88. Comparing this 1929 March average with the 1932 June average of 4.6, it would appear that these mining shares declined within the three years under consideration by nearly 95 per cent. The November, 1935 average of 21.5, compared with the 1932 June average of 4.6, shows an appreciation of about 367 per cent. Again, however, it is important to note that the November, 1935 average, compared with the March high of 1929 (88) still shows a depreciation of about 75½ per cent.

1934 Price Factors.—In connection with the low price level of 1934, the following comment was made in The American Year Book for 1934: "The unwillingness of the market to forge ahead more energetically seems surprising in the light of the abundance of cheap credit, available as yet primarily for listed securities possessing the benefits of liquidity because of the continuous market afforded by our stock exchanges, and the further fact that the economic situation seems to have been so thoroughly liquidated. In every direction there seems to be a lack of confidence, *i.e.*, an unwillingness to put capital to use. According to the financial press the future seems clouded with too many radical propositions strongly advocated in many influential centers. A policy of sitting on the mainspring of profits seems to have prevailed in many quarters to the extent of becoming a stifling influence. The huge expenditures for relief, governmental interference with private initiative, rapidly increasing taxation, a labor market disturbed with frequent strikes, and uncertainty concerning the future value of the dollar have no doubt also been important factors in bringing about a hesitant and stifled market. Stock markets cannot be expected to forge ahead, discounting a brighter future, until the speculative market visualizes more clearly the removal of fundamental obstacles with respect to business progress."

1935 Price Factors.—While some of the aforementioned factors, especially huge expenditures for relief and increasing taxation, are still operative, sentiment during the latter half of 1935 has been distinctly better. Confidence seems to exist on a much larger scale, and hope is expressed everywhere that the so-called "heavy industries" will soon swing into line with a greatly increasing activity. Great activity at present in the automobile and mercantile lines, it is felt, will soon be followed with a revival of the capital goods industries upon which so large a proportion of the nation's working population is dependent. Moreover, there is a plethora of idle capital, like a dog on the leash, waiting to go ahead. Much of the restrictive legislation hampering business has already been declared illegal and nearly all of the balance is before the courts. Much less is heard about any further devaluation of the dollar, and there seems to be less fear concerning the future of our medium of exchange. Even the President electrified the nation some months ago with his proclaimed "breathing spell" with respect to business.

SECURITY MARKET PRICES*

	Railroads (20 stocks)		Industrials (50 stocks)		Public Utilities (20 stocks)		Composite Bonds (60 bonds)			
	1934	1935	1934	1935	1934	1935	1934		1935	
							High	Low	High	Low
January	47.26	37.04	93.09	86.40	72.02	49.59	82.0	74.8	88.4	86.6
February	51.94	35.11	97.75	85.11	82.61	44.81	85.1	82.7	88.2	86.3
March	50.08	30.83	93.26	79.61	76.74	43.11	85.8	83.9	86.8	83.0
April	50.54	31.73	94.87	84.00	74.64	51.65	88.1	84.9	87.0	83.4
May	45.58	33.51	86.66	91.03	67.80	55.86	87.2	85.0	87.4	86.6
June	45.66	34.79	86.48	92.52	69.30	60.81	86.8	85.5	89.6	86.8
July	40.93	36.71	81.02	98.23	62.77	64.98	87.2	84.0	89.8	88.8
August	37.40	38.53	80.61	103.83	59.80	73.70	84.7	82.5	90.4	89.4
September	36.63	39.19	79.47	106.23	56.82	72.74	84.1	81.6	90.9	89.6
October	37.61	36.88	80.46	109.97	56.68	74.40	84.8	83.3	90.5	89.3
November	37.22	....	83.99	....	52.68	....	85.1	83.9	91.9	90.3
December	38.34	....	86.06	....	50.88	....	86.5	85.2	......	......

* (Source of data—Standard Trade and Securities, Statistical Bulletin) Standard Statistics Company, Inc.

SHARES TRADED ON THE NEW YORK STOCK EXCHANGE

(New York Stock Exchange *Bulletin*)

	1934	1935
January	54,565,349	19,409,132
February	56,829,952	14,404,525
March	29,909,904	15,850,057
April	29,845,282	22,408,575
May	25,335,680	30,439,671
June	16,800,155	22,336,422
July	21,113,076	29,427,720
August	16,690,972	42,925,480
September	12,635,870	34,726,590
October	15,659,921	46,658,488
November	20,870,861	57,459,775
December	23,588,612	....

YEARLY TOTALS

(Shares of Stock)

1919	316,787,725
1920	226,640,400
1921	172,712,716
1922	258,652,519
1923	236,115,040
1924	281,991,597
1925	454,404,733
1926	450,845,255
1927	576,563,218
1928	919,661,825
1929	1,124,991,490
1930	810,038,161
1931	576,921,426*
1932	425,235,829*
1933	654,874,210*
1934	323,871,840*
1935	381,666,197*

* (From *The New York Times*).

THE BOND MARKET

Sales.—Bond sales on the New York Stock Exchange during 1935 totalled $1,171,480,000 (*The New York Times* report) as compared with $3,729,460,500 for 1934, $3,366,402,950 for 1933, $2,951,965,650 for 1932, $3,075,347,100 for 1931, $2,779,009,350 for 1930, and $3,020,316,700 for 1929.

Prices.—Unlike shares, bonds experienced a moderate decline during 1935, due no doubt in part to the switch of interest from bonds to stocks. The 1935 price level for investment bonds, judging from Babson's composite price of 20 leading representative bonds, showed a decline from an average price of 95.3 for January 1935 to 88.7 for November. Since April, however, the price level has remained fairly constant, the monthly averages being 87.4 for April, 88.2 for May, 89.3 for June, 90.4 for July, 89.7 for August, 89.4 for September, 88.0 for October, and 88.7 for November. The November, 1935 average of 88.7 (the latest available) compares with the low monthly average for the depression of 67.0 (June, 1932) and the highest monthly average during the depression of 97.8 for February and March of 1931. In other words, the November, 1935 average of 88.7 is 9.1 points under the highest figure of 1931 and 9.8 points below the highest monthly average reached since 1928, namely, 98.5 for September 1930.

THE MONEY MARKET

Loan Rates.—With respect to both time and call loan rates, the 1935 tendency continued much as it was during 1934 and 1933, and is indicative of a continuing plethora of idle funds. Just as was explained in last year's account, New York time and call loans were often quoted at a fraction of one per cent, thus showing the unusual absence of demand for funds for commercial and speculative purposes. Beginning with a January average of ¾ of 1 per cent for prime commercial paper and 1 per cent for call loans in New York, the average monthly rates during 1935 remained extremely low, month after month, throughout the year. All during the year the rate on prime commercial paper in New York remained at a monthly average of ¾ of 1 per cent. For call loans in New York the monthly average during January and March stood at 1 per cent. For April the average declined to 5/8 of 1 per cent, and thereafter, from May to October inclusive, the monthly average remained at ¼ of 1 per cent. During November and December, however, the rate was ¾ of 1 per cent.

Borrowings.—According to the New York Stock Exchange *Bulletin* (December, 1935) the borrowings of New York Stock Exchange members on security collateral have actually shown a moderate decline, as compared with 1934, despite the existence of a continually rising stock market during the last nine months of the year. Thus demand loans actually decreased from $616,300,286 to $406,656,137 between Jan. 1 and Dec. 1, 1935. During the same period, however, time loans increased from $263,962,869 to $439,457,000. Combining the two types of loans, total borrowings showed a nominal decrease of from $880,263,155 on Jan. 1 to $846,113,137 on December 1. This combined total compares with corresponding figures, prevailing on Dec. 1, of $831,000,000 for 1934, $789,000,000 for 1933, $338,000,000 for 1932, $730,000,000 for 1931, $2,162,000,000 for 1930, $4,061,000,000 for 1929, and $6,392,000,000 for 1928. No doubt owing to the Securities and Exchange Act, many purchasers of stocks have done their financing directly through the banks instead of with brokers as formerly. Yet the status of brokers' loans remains perplexing in view of the extraordinarily low interest rates prevailing throughout the year, and the further substantial rise which has occurred in the price level of stocks.

INTEREST RATES

	Call Loans—N. Y. Commercial Paper 4-6 months (choice)		Stock Exchange Renewals—average of daily renewal rates		Average Bank Rates—England, France and Germany		Gold Movements *(Exports Exceed Imports)	
	1934	1935	1934	1935	1934	1935	1934	1935
January ..	1.50	1.00	1.00	1.00	2 5/6	2 5/6	*$ 2,768,000	$149,392,000
February .	1.50	1.00	1.00	1.00	3	2 5/6	452,571,000	122,771,000
March....	1.26	1.00	1.00	1.00	3	2 5/6	237,336,000	13,003,000
April.....	1.25	1.00	1.00	0.64	3	2 5/6	54,748,000	148,608,000
May.....	1.19	1.00	1.00	0.25	3	4	33,582,000	140,016,000
June.....	1.00	1.00	1.00	0.25	2 5/6	3 7/8	63,705,000	230,372,000
July......	1.00	1.00	1.00	0.25	2 5/6	3 1/4	52,346,000	16,228,000
August ...	1.00	0.86	1.00	0.25	2 5/6	3	37,225,000	45,982,000
September	1.00	0.75	1.00	0.25	2 5/6	3	*18,670,000	156,719,000
October ..	1.00	0.75	1.00	0.29	2 5/6	3	10,837,000	315,348,000
November	1.00	0.75	1.00	0.75	2 5/6	3 1/2	120,889,000	....
December	1.00	....	....	....	2 5/6	....	92,109,000	....

(Source of Interest Rate Data—Standard Statistics)
(Source of Average Bank Rate—Babson's Statistical Service)
(Source of Gold Movements—Babson's Statistical Service)

BANKING AFFAIRS

BY GURDEN EDWARDS

SECRETARY, ECONOMIC POLICY COMMISSION,
AMERICAN BANKERS ASSOCIATION

GENERAL

Banks of all classifications in the United States on June 29, 1935, numbered 15,994 licensed institutions with aggregate deposits, exclusive of interbank deposits, of $45,766,000,000. The total investments of these institutions were $24,145,000,000 on the date given and their loans were $20,272,000,000. As to numbers, these figures showed but little variation from those of a year earlier, as there were, on June 30, 1934, 15,835 licensed banks, including both national and state chartered institutions, but there was a considerable increase in the item of deposits. At the earlier date, total deposits equalled $41,870,000,000, so that the year indicated showed an increase of $3,896,000,000 in this item. In the same period, total investments of banks increased by $2,921,000,000, but their loans showed a drop of $1,006,000,000. This latter circumstance was a reflection of several factors. One was the difficulty experienced by bankers in finding qualified commercial and industrial borrowers in certain fields willing to venture on an expansion of their activities on account of the uncertainties of the times. Another was the fact that the Government had entered largely into the field of extending credit to private interests, and a large part of bank earning assets were found in the form of purchases of Government bonds by which Government lending was financed. Still another factor entering into this anomalous condition of bank loans was the circumstance that a great many large corporations were so amply provided with cash resources of their own as to render them largely independent of bank borrowings.

CLASSIFICATIONS OF BANKS

Official reports on banks by classes show that there were, on June 29, 1935, 5,425 national banks as compared with 5,417 banks of this class a year earlier. The national banks had deposits of $19,031,000,000, exclusive of inter-bank deposits, as compared with $17,097,000,000 a year earlier. Their investments had risen in the year indicated from $9,331,000,000 to $10,698,000,000, and their loans had fallen from $7,681,000,000 to $7,353,000,000. The same reports showed that there were, in June, 1935, 10,569 state banks as compared with 10,418 a year earlier; this figure comprised all licensed state commercial banks, trust companies, mutual and stock savings banks and such private and industrial banks as are included in abstracts issued by state banking departments. The deposits of this group of banks totalled, in June 1935, $26,735,000,000, as compared with $24,773,000,000 a year earlier. Their investments at the 1935 date were $13,446,000,000, as compared with $11,893,000,000 a year earlier and their loans were $12,919,000,000, as compared with $13,598,000,000 a year earlier.

BANK SUSPENSIONS

The 11 months of 1935 from January through November witnessed only 29 suspensions of licensed banks with total deposits of $9,537,000. This compares with 57 suspensions for the 12 months of 1934 with deposits of $36,937,000. Of the 1935 suspensions four were national banks with deposits of $5,387,000; 17 were state banks which were also insured as were the national banks by the Federal Deposit Insurance Corporation, with deposits of $3,152,000; and eight were other non-member state banks with deposits of $998,000. Non-licensed banks placed in liquidation or receivership during January-November, 1935 numbered 57 with total deposits of $29,363,000; these may be compared with 927 non-licensed banks placed in liquidation or receivership during the 12 months of 1934 with deposits of $624,921,000.

PUBLIC CONFIDENCE IN BANKS

So widespread and obvious was the restoration of public confidence in banks that the American Bankers Association was led to make the following declaration in its resolutions at its annual convention held in New Orleans in November, 1935: "On behalf of banking we are able to report a complete restoration of public confidence. This has put it in the position where it can function fully and vigorously in playing its full economic part in the progress of recovery. The passage of a generally constructive banking law in the Banking Act of 1935 has stabilized the banking situation and enabled bankers to devote undivided attention to the normal administration of their institutions in promoting the business and public welfare of their communities. We feel that it is a particularly important feature of this law that it aims to create through the revision of the Federal Reserve Board a Supreme Court of Finance which, with the nonpolitical appointment of exceptionally competent men, should constitute one of the greatest forward steps in building a sound banking and credit system for this country."

THE GOVERNMENT IN BANKING

The resolutions also said in regard to the question of the activity of the Government in fields of lending: "We particularly emphasize the desirability of the retirement of Government from those fields of extending credits of various types which can be adequately served by privately owned institutions. We recognize that the exigencies of the now passing depression made necessary a large participation by Government for a time in the task of meeting the public's emergency financial needs. We believe those conditions have been largely remedied and that the obligation now rests upon the banks and other financial agencies to demonstrate to the people of this country that they are fully able and willing to meet all demands upon them for sound credit cooperation. It is our duty as bankers to facilitate in every effective way the retirement of government agencies from credit activities by promoting public understanding of the proper function of privately owned banking."

DETAILED RESOURCES AND LIABILITIES OF ALL REPORTING BANKS, JUNE 30, 1934

The latest official figures available for all classes of banks, giving detailed schedules of assets and liabilities are those presented in the report of the Comptroller of January, 1935, and are as follows:

June 30, 1934 Assets	15,894 banks (In thousands of dollars)
Loans and discounts (including rediscounts)	$21,417,924
Overdrafts	13,229
Investments	21,289,494
Banking house, furniture and fixtures	1,284,375
Real estate owned other than banking house	845,136
Cash in vault	713,968
Reserve with Federal Reserve banks or other reserve agents	4,503,768
Due from banks	4,373,178
Exchanges for clearing house and other cash items	624,835
Other assets	1,094,018
Total	$56,159,925
Liabilities	
Demand deposits	17,585,475
Time deposits (including postal savings)	22,552,330
United States deposits	1,736,683
Due to banks	4,371,660
Certified and cashiers' checks and cash letters of credit and travelers' checks outstanding	353,112
Deposits not classified	25,781
Total deposits	46,625,041
National-bank circulation	698,293
Bills payable and rediscounts	188,050
Agreements to repurchase securities sold	14,928
Acceptances executed for customers	296,699
Interest, taxes, and other expenses accrued and unpaid	73,906
Other liabilities	410,258
Capital notes and debentures	322,461
Capital stock	3,236,325
Surplus	3,174,691
Undivided profits—net	643,442
Reserves for contingencies	475,181
Retirement fund for preferred stock, capital notes and debentures	650
Total	$56,159,925

RECONSTRUCTION FINANCE CORPORATION AND BANKING

The Reconstruction Finance Corporation, reporting on its operations to Dec. 31, 1935, stated that, since its inception in January, 1932, it had authorized loans to 7,460 banks and trust companies of all classes in the aggregate amount of $2,417,000,000, of which amount $368,443,000 was withdrawn or cancelled and $117,163,000 was unavailed of, leaving $1,931,000,000 actually disbursed. Of this latter amount, $1,549,000,000, or 80%, had been repaid by the banks. The Corporation also reported that since it was empowered in March, 1933 to make purchases of preferred stock, capital notes and debentures of banks to strengthen their capital structures, authorizations had been made for such purchases in respect to 7,254 banks and trust companies in the amount of $1,294,000,000, of which $253,000,000 had been cancelled, withdrawn or unavailed of. It was also stated that loans had been authorized for distribution to depositors in 2,665 closed banks, aggregating $1,170,000,000, of which $876,000,000 had been actually disbursed, $630,000,000 having been repaid. The foregoing figures consistently demonstrate the steady return of normal conditions in the banking structure.

FEDERAL DEPOSIT INSURANCE CORPORATION

The Chairman of the Board of Directors of the Federal Deposit Insurance Corporation stated before the American Bankers Association convention that the Corporation was insuring the deposits of over 14,000 licensed banks, and that of the 51,000,000 accounts in these banks more than 99% were fully insured by the $5,000 limit; 9,700 banks had an average coverage of 80% of their total deposit liability and 13,300 banks were insured 70% or more. He said that, since the creation of the Corporation, over 7,700 banks have voluntarily applied for insurance and there were only about 1,000 licensed commercial banks not insured by the Corporation. He brought out that the Corporation is now permitted to examine all insured banks and has access to reports of their condition made to various agencies, that it must be appointed receiver for all insured national banks which close, and is authorized to act as receiver in the case of the closing of any insured state member or non-member bank.

DEBITS TO INDIVIDUAL ACCOUNTS IN 141 CITIES

(Millions of Dollars)

Federal Reserve District	1934	1935
Boston	$ 18,366	$ 20,496
New York (excluding NYC)	172,640	191,396
Philadelphia	15,800	17,807
Cleveland	16,476	19,028
Richmond	6,341	6,987
Atlanta	8,004	8,531
Chicago	41,252	49,644
St. Louis	8,491	9,667
Minneapolis	5,751	6,472
Kansas City	9,771	10,910
Dallas	5,548	6,357
San Francisco	23,492	28,128
(Total outside New York)	$331,932	$375,423
New York City	165,949	184,006
Total	$497,881	$559,429

SAVINGS IN AMERICAN BANKS

Savings, including time deposits and postal savings deposited in banks in the United States, increased 4.1 per cent for the year closed June 29, 1935, in comparison with the preceding year, according to reports received by the Savings Division, American Bankers Association. The increase amounted to nearly $900,000,000 and the number of savers grew by over 1,750,000. This percentage gain was nearly double that registered a year before over the year closed June 30, 1933. The gain was general throughout the United States, and in only eight states was a loss shown. Total savings in banks aggregated $22,652,489,000, almost $6,000,000,000 below the high point of 1930, the Association stated. The greatest percentage of gain in savings deposits for the year indicated was shown in the east central states, the southern states and the Pacific states, in the order named. The gains were accepted as proof of stabilized banking conditions which called money from unaccustomed places. In the gain in savings depositors, amounting to 1,753,032, an increase occurred in every state except five. The number of depositors was found to be 41,315,206, or 32.7 per cent of the population of the United States. The following tabulation gives the savings picture during five years:

SUMMARY OF SAVINGS DEPOSITS AND DEPOSITORS

(including time certificates and postal savings)

(000 omitted)

Year	Total Savings Deposits	Per Inhab. Savings Dep.	Total Number Savings Depositors
1931....	$28,219,618	$227	51,399,446
1932....	24,281,346	194	44,352,106
1933....	21,125,534	168	39,262,442
1934....	21,752,510	172	39,562,174
1935....	22,652,489	179	41,315,206

THE QUESTION OF BANK CHARTERS

The most important banking study of the year was that prepared by the Economic Policy Commission of the American Bankers Association, on "The Bank Chartering History and Policies of the United States." In a foreword to the study, Robert V. Fleming, president of the Association, said:

"The Commission's study gives an impressive revelation of how great a part mistaken public policies in the chartering of banks played in creating the unsound banking structure which finally collapsed with the Bank Holiday in March, 1933. Over-production of banks, literally by thousands, over many years in the face of insistent warnings not only from bankers and others who recognized the danger, but even more so from the mounting records of bank failures themselves, is here clearly shown to have constituted as a whole one of the greatest single economic errors in the history of the nation."

He pointed out that although the drastic elimination of thousands of banks has largely corrected the old situation, "this is not a guaranty against a repetition of the error." He referred to fears of a recurrence of over-banking recently expressed by Federal banking authorities, to the powers given the Federal Deposit Insurance Corporation by the provision of the Banking Act of 1935 over the admission of banks to membership in the insurance fund, to strengthened state laws and to the policies now being followed by both national and state supervisory authorities aimed to safeguard the nation against a return of over-banking, and added: "But sound laws and conscientious officials are not of themselves always sufficient safeguard in any field by our complex national life unless they have the active support of public opinion. It is the purpose of the American Bankers Association to aid in marshalling public opinion in support of both national and state supervisory authorities in their efforts to strengthen and protect the banking structure."

The Commission's report summed up its findings as follows: "The history of bank chartering in the United States shows that for years prior to the depression which began in 1929 there was a widespread disregard of the proper relationship between the economic needs of the country and the numbers and localities of banks permitted to open for business. This disregard prevailed not only among the general public but frequently also among both state and national banking authorities who were responsible and empowered by law to guard against unsound charter policies.

"A major cause in the over-production of banks was the competition between the national and state banking systems to outdo each other in respect to the numbers of banks under their jurisdictions. It also became a matter of public policy in both jurisdictions to encourage the establishment of banks with small capital in small places as a popular political measure, mistakenly considered a means for fostering national development, especially in the rural sections.

"These policies were persisted in despite warning voices and the danger signals presented by a disastrous bank failure rate from 1920 to 1929, indicating clearly that the nation had become heavily over-banked. Faster than old banks failed, new bank charters were granted, often to persons unfit to be entrusted with such responsibilities. Both state and national governments progressively and competitively liberalized their charter provisions to attract new banks. These conditions contributed heavily to creating a banking structure unable to meet the stresses and strains and the destructive shocks of depressed national conditions which began in 1929.

''Analysis of the data shows that there is a distinct causal relationship between the over-chartering of banks and the abnormal bank failure conditions that prevailed from 1920 to the Bank Holiday in 1933. It is desirable that studies be made on the basis of experience to develop standards governing the number of banks or the volume of bank capital which can be successfully operated. Such a study would embrace the question as to whether banking facilities can best be supplied to the rural districts by small unit banks or by branches from banks of substantial capital in larger centers.

''Existing sound banks, especially the small banks in the rural districts which are serving their communities well, should be protected from any return of the over-banked local conditions caused in the past by lax chartering policies, which were mainly to blame for the unfavorable record as set forth in this study. An inquiry among state bank commissioners shows a preponderant opinion against increasing materially the number of banks, coupled with the fact that present laws give them sufficient discretion to prevent a repetition of the grave errors of the past.

''However, under prevailing abnormal conditions, with the Federal Government extensively exercising loaning powers in competition with the banks, and with industry itself so largely supplied with funds as to render it to a great degree independent of normal bank borrowing, the banking structure even with its present reduced numbers, finds it difficult to support its existing capital investment and operating personnel. These are new factors, intensifying the need for highly prudent and restrictive chartering policies. Also, we urge the retirement of the Federal Government from the banking business as rapidly as the return of normal business conditions warrant.''

AMERICAN BANKERS ASSOCIATION CONVENTION

The American Bankers Association, the national organization of banking, including in its membership the great majority of the 16,000 state commercial and national, trust companies and savings banks, held its sixty-first annual convention at New Orleans in November, 1935. Among the plans for banking betterment formulated by Robert V. Fleming, president of The Riggs National Bank, Washington, D. C., who was elected president of the association, provision was made for a series of regional conferences on banking service as a part of a nationwide program. The important objectives of these conferences were stated to be to give attending bankers information on present banking laws and regulations and to discuss problems arising from their application, to aid bankers in developing methods of improving customer and public relations, and also to enlist them in an organized effort to promote, wherever they could soundly do so, the return to private agencies of many banking functions which were being performed under government auspices. The first of these conferences was held in Philadelphia in January, 1936, and the schedule called for a second conference in Memphis, Tenn. in March and a third in Chicago in April, 1936.

San Francisco was designated for the holding of the 1936 convention. The general officers of the Association elected for 1935-36 were: President, Robert V. Fleming, president of The Riggs National Bank, Washington, D. C.; First Vice President, Tom K. Smith, president of the Boatmen's National Bank, St. Louis; Second Vice President, Orval W. Adams, executive vice president of Utah State National Bank, Salt Lake City; Treasurer, Arthur B. Taylor, president of the Lorain County Savings & Trust Company, Elyria, Ohio; Executive Manager, F. N. Shepherd, American Bankers Association, New York City.

TRUST BUSINESS

By Gilbert T. Stephenson

Vice President, Equitable Trust Company, Wilmington, Delaware

STATISTICS OF TRUST INSTITUTIONS

The 1935-36 *Directory of Trust Institutions, Trust Men, and Trust Associations* shows a continued and substantial growth and development in the trust field, as shown by the following comparative figures:

	1934-35	1935-36
Trust Institutions	2,574	2,853
State-chartered institutions	1,288	1,356
National banks	1,286	1,497
Cities and Towns Represented	1,574	1,684
Trust Men and Women	6,024	6,949
Total Capital, Surplus, and Undivided Profits	$ 4,219,693,988	$ 4,416,407,878
Total Resources	31,385,707,625	35,443,238,561

The above figures would indicate that the net increase in the number of trust institutions has been 279 and the net increase in the number of trust men and women, 925. This calls for some explanation. The 1934-35 Directory, which was the first official directory of trust institutions, trust men, and trust associations ever published, did not list quite all of the then existing institutions. The increase of 279 in number of trust institutions and of 925 in number of trust men and women is, in fact, more apparent than real. The increase really represents newly discovered rather than newly established trust institutions. An independent survey by Federal Reserve Districts of new trust department shows that in several of the Districts the number of trust institutions has been reduced during the year and that in none of them has there been a substantial increase. The decrease, where there has been a decrease, has been due to further consolidations of banks and trust companies and, in a few instances, to the outright surrender by banks and trust companies of their license to engage in trust business.

The 1935-36 Directory shows a substantial increase in the number of national banks, as compared with the number of state-chartered institutions, engaged in trust business. In the 1934-35 Directory there were reported 1,288 state-chartered banks and trust companies and 1,286 national banks; whereas, in the 1935-36 Directory there are reported 1,356 state-chartered institutions and 1,497 national banks. The greater proportionate increase in the number of national banks engaged in trust business is, perhaps, attributable to the fact that in the process of reorganization of banks and trust companies since the Bank Holiday of March, 1933, a good many banks and trust companies have surrendered their state charters and taken out national charters.

TRUST EDUCATION

The most significant development in the trust field during 1935 was the establishment of the Graduate School of Banking with its major and minor courses in trust business and trust law. A description of the Graduate School itself belongs under the subject of banking rather than trust business. Suffice it here to state that the Graduate School of Banking is an enterprise of the American Institute of Banking which, in turn, is a section of the American Bankers Association. The school offers major and minor courses in banking, in investment, and in trusts. It is a three years' course of graduate study open only to officers of banks and trust companies. The course consists of classroom work, extension work, and the preparation of theses. The first resident session of the school was conducted at Rutgers University, New Brunswick, N. J., June 17-29, 1935, with a student-body of 420 of whom 60 were majoring or minoring in trusts.

The courses in trusts are divided into major and minor courses each in trust business and trust law. The major courses are designed for experienced trust men who desire to do advanced graduate work in the trust field that involves pioneering and research. For example, among the topics discussed in the major course in trust business during the 1935 session were National Aspects of Trust Business, The Trust Institution and the Federal Government, The Trust Institution and the Community, The Trust Institution and Its Customers, The Year's Development in the Taxation of Estates and Trusts, Bases of Compensation of Trust Services, Administration of Common Funds, Extra-Legal Obligations under the Statement of Principles, Ethical Obligations of Trust Men, Trust Business in Other Countries, New Kinds of Trust Business, and Trends in the Trust Field. Similarly, the major course in trust law deals with the more advanced phases of the subject in which experienced trust men are particularly interested. On the other hand, the minor courses in trusts are designed for bank officers who, while not engaged directly in trust work, are, nevertheless, interested in the basic principles of trust law and the basic policies and practices of trust business.

THE PROFESSIONALIZATION OF TRUST SERVICE

The offering, through the Graduate School of Banking, of a course of graduate study in trust business and trust law carrying, as it does, one step further the work of the American Institute of Banking, is, admittedly, a step towards the professionalization of trust service, that is, towards the recognition of the rendering of trust service as a profession rather than as a business. A second step in that direction, it seems, is now about to be taken. At the annual meeting of the Trust Division of the American Bankers Association in New Orleans, Nov. 13, 1935, the president of the Division recommended the appointment of a committee to consider the drafting of a statement of the ethical obligations of trust men, to supplement the Statement of Principles of Trust Institutions which was adopted in 1933. Such a committee was named and is now at work upon a proposed statement of ethical obligations of trust men. If or when such a statement is formulated and adopted, it will be in effect, if not in name, a code of ethics for trust men. The adoption of a code of ethics is an essential step towards the attainment of a professional status by trust men.

RESTATEMENT OF THE LAW OF TRUSTS

While the publication of a book ordinarily would not of itself be regarded as a noteworthy event in as broad a field of human enterprise as is the trust field, it is true that the publication during 1935 of the *Restatement of the Law of Trusts* as adopted and promulgated by the American Law Institute at Washington, D. C., on May 11, 1935, is in fact a noteworthy event in the trust field. Since 1927 a group of 15 legal scholars (teachers and practicing lawyers) headed by Austin W. Scott of the Harvard Law School, have been at work upon a restatement of the law of trusts. The object of the Institute is to present an orderly statement of the general common law of trusts in the United States, "including in that term not only the law developed solely by judicial decision but also the law that has grown from the application by the courts of statutes that have been generally enacted and have been in force for many years." The *Restatement* consists of 460 sections in two volumes of 1,500 pages. It is a landmark not only in the law of trusts but also in the development of trust business. For trust men it is significant that Austin W. Scott, who was the Reporter of the Committee on Trusts which drafted the Restatement, is the member of the faculty of the Graduate School of Banking who gives the courses in trust law.

INTEREST IN COMMON TRUST FUNDS

In trust circles during 1935 there was noticeable a growing and deepening interest in common trust funds, that is, in funds made up of smaller funds supplied by a number of trusts pooled for investment advantages. The following is the accepted formal definition of a common trust fund: "The term common trust fund means a fund established by a corporate trust institution in which is combined for the purpose of facilitating investment money belonging to various trust accounts in its care, the participating contributory interests of said accounts being appropriately evidenced."

While a few such common trust funds have been in operation in the United States since 1929 or 1930, notably funds established by the Brooklyn Trust Company of Brooklyn, the City Bank Farmers Trust Company of New York City, and the Equitable Trust Company of Wilmington, Delaware, the idea of common trust funds did not assume national proportions until 1934 when the Trust Division of the American Bankers Association named a special committee on Common Trust Funds. During 1935 this committee has directed its attention assiduously to some of the practical difficulties, especially tax and accounting problems, in the way of the more general employment of common trust funds by trust institutions. This committee has learned that, while common trust funds are comparatively new in the United States, many are in general use and well developed in other countries. New Zealand has had a successfully operated common fund 62 years; Denmark, 66 years; Norway, 30 years, and Japan and Australia, shorter periods. In other words, the common trust fund has proved itself to be a very great convenience, if not an absolute necessity, in the profitable and economical administration of small trust accounts, accounts too small to offer adequate diversification. The advantage of these common trust funds have been summarized as follows: Immediate and continuous investment, regular income, availability of capital and accumulated income, security of principal, freedom from anxiety on the part of the beneficiary, and facilitating of investment on the part of the trustee.

During 1935 the offering of facilities for systematic, scientific training for trust service, steps towards the recognition of the professional status of trust men, and the more general use of common trust funds in connection with small trust accounts appear to be the noteworthy developments in the trust field.

FOREIGN EXCHANGE

By Marcus Nadler

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GENERAL DEVELOPMENTS

The year 1935 was marked by a number of outstanding developments in the field of foreign exchange. On April 1 the Belgian belga was devalued by 28 per cent and on Nov. 4 China was obliged to abandon its traditional silver standard and adopt a managed currency. During the year the Italian foreign exchange restrictions were increased to such an extent that the use of the Italian currency in international transactions virtually ceased, and the lira became practically an internal currency like the German mark and the Russian rouble. The remaining gold bloc currencies were subjected to repeated attacks, and France, Holland and Switzerland lost substantial amounts of gold but continued to adhere to the gold standard. The group of currencies based on the pound sterling was broadened, and the pound sterling is today, as before the war, the most important international currency of the world. The currencies of the world may be divided into several major groups: (1) the sterling group, (2) the dollar bloc, (3) the gold bloc, and (4) currencies of countries which have imposed rigid foreign exchange restrictions.

THE STERLING BLOC

The sterling bloc now includes the currencies of all the countries of the British Empire with the exception of Canada, as well as those of Denmark, Norway, Sweden, Finland, Argentina, Japan and China. All of these currencies have been quite stable in relation to sterling as shown by the following table.

STERLING BLOC CURRENCIES IN 1935

(Monthly average quotations in London)

	Argentina Pesos per £	Japan Yen per £	Sweden Kronor per £	South Africa £ S. A. per £100	Australia £ A. per £100	New Zealand £ N. Z. per £100
January	19.534	17.149	19.400	100.5	125.25	124.25
February	18.983	17.010	19.400	100.5	125.25	124.25
March	18.885	17.032	19.400	100.5	125.25	124.25
April	18.904	17.019	19.400	100.5	125.25	124.25
May	18.913	16.978	19.400	100.5	125.25	124.25
June	18.702	16.991	19.400	100.5	125.25	124.25
July	18.656	16.979	19.400	100.5	125.25	124.25
August	18.519	16.924	19.400	100.5	125.25	124.25
September	18.226	17.007	19.400	100.5	125.25	124.25
October	18.006	17.079	19.400	100.5	125.25	124.25

The stability of the currencies adhering to sterling in relation to the British pound has been maintained chiefly through balances which the foreign banks keep in London. It is reported that the equalization account of Great Britain has also played an important role in maintaining the stability of the sterling bloc currencies. In view of the importance of the sterling bloc, international stabilization of currencies can take place only with the consent of Great Britain. So far, however, Great Britain has been unwilling to stabilize the pound on a gold basis. The British authorities contend that as long as international trade remains strangled by high tariffs, import quotas and foreign exchange restrictions and as long as most of the nations of the world continue to pursue extremely nationalistic economic and financial policies the gold standard cannot be permanently restored. Another important consideration from the British point of view is that a return to the gold standard would again require British financial policy to be conditioned by the movement of gold to and from the country. Great Britain is committed to maintenance of low interest rates in order to facilitate business recovery as well as government financing and does not want interference with this policy by outside influences. As conditions are at the present time, therefore, it is not likely that Great Britain, and with it the sterling bloc, will return to the gold standard during the coming year.

THE GOLD BLOC

The most important event in the gold bloc currencies was the defection of Belgium, leaving only three countries which during the depression have maintained the gold parity of their currencies without foreign exchange restrictions of any kind. Belgium, however, did not abandon the gold standard but simply reduced the gold content of the belga, leaving it on a gold basis. After the devaluation there was a considerable repatriation of Belgian capital with the result that the gold and foreign exchange holdings of the Belgian National Bank increased materially. The Belgian currency crisis, however, caused a severe attack on the remaining gold bloc countries. Speculators, believing that these countries would also be forced to devalue in the near future, sold the gold bloc currencies short. At the same time, the fear of devaluation resulted in a considerable flight of capital from them. The effect can be seen from the following table, showing the gold holdings of the central banks of the three gold bloc countries.

GOLD HOLDINGS OF CENTRAL BANKS OF GOLD BLOC COUNTRIES IN 1935

(In millions)

	Bank of France (French francs)	Netherlands Bank (Florins)	National Bank of Switzerland (Swiss francs)
January	82,014	839.4	1,837.6
February	82,040	833.2	1,794.4
March	82,635	834.3	1,712.8
April	80,933	665.5	1,364.9
May	71,779	668.1	1,192.7
June	71,017	649.7	1,195.5
July	71,277	580.4	1,289.3
August	71,742	615.2	1,366.1
September	71,952	557.2	1,372.4
October	71,990	610.0	1,387.4
November	66,191	628.0	1,391.9

The Swiss plebiscite on economic policy in June, 1935, which showed a majority of the people opposed to currency tinkering, and the firm stand of the Dutch Government in opposition to devaluation, caused some revival of confidence in the currencies of these countries. The French franc, however, was again subject to a serious attack towards the end of the year which caused a large outflow of gold from the country. This crisis was due primarily to the internal political developments in France. In France, as in Holland and Switzerland, the majority of the people seem to be in favor of maintaining the gold standard. The French political situation, however, has been more unstable and the flight from the franc in the latter part of the year was due chiefly to fear that the Laval Government would be forced to resign, thus creating a situation in which an embargo might have to be placed on gold exports.

THE DOLLAR BLOC

The dollar bloc embraces, in addition to the United States, several Central and South American currencies which have moved in unison with the dollar as well as the Canadian dollar. During most of the year 1935 the United States dollar was quoted above par and at times above the gold import point in relation to the countries of the gold bloc. This in turn resulted in a tremendous influx of foreign gold into the United States, and in the first eleven months of the year the monetary gold stock of the country increased by approximately $1,770,000,000, bringing the total to above $10,000,000,000, or almost one-half of the world's total monetary gold supply.

This huge inflow of gold was due mainly to the movement of European capital to this country. There may have been some further repatriation of American funds from abroad but it is believed that most of these balances were brought home in 1934. The influx of foreign capital, however, was not due to the attractiveness of the American money market for short-term interest rates in the United States were probably at the lowest level in the history of the country. Foreign capital was transferred to this country for two main reasons. One was fear of currency depreciation abroad. The other was the desire to participate in the American stock market boom by buying American securities. This latter consideration was particularly important in the second half of the year.

So far the great influx of gold into the United States has had no other effect than to increase the already large excess reserve balances of the member banks with the reserve banks which at the end of 1935 amounted to over $3,000,000,000. Short-term interest rates were already so low as to be practically unaffected. However, the existence of these large excess reserves constitutes a basis for credit expansion of such magnitude as to give serious concern to the banking authorities of this country.

THE FAR EAST

The abandonment of the silver standard by China is an event of great historical importance. It means that world demonetization of silver is now almost complete since China was the largest economic and political unit still using silver as the basis for its currency system. In adopting a managed paper currency standard, China has joined the sterling bloc. The great question, however, is whether China will be able to maintain the stability of its currency in relation to the pound sterling.

Both economic and political considerations cast doubt on China's ability to maintain the currency at a stable level. From the economic point of view, it must be noted that China has a consistently unfavorable trade balance. While depreciation of the Chinese currency may result in an increase in exports and a decrease in imports it is not to be expected that it will lead to the development of a favorable trade balance. Furthermore, the Chinese people from sad experience have developed a deep distrust of paper currency. It is, therefore, expected that the demonetization of silver, coupled with the political uncertainties, may result in a continued flight of capital from China which will adversely affect the Chinese balance of payments.

From the political point of view the situation is also fraught with great dangers. A managed paper currency may operate satisfactorily in a country which has a strong central government. This is not the case in China. The central government is weak and in many sections of the country it has little authority. A weak government is, of course, less able to resist pressure to issue paper money, and the adoption of an inflationary policy would certainly cause serious depreciation of the Chinese dollar.

China's action in abandoning the silver standard was the direct outcome of the silver purchase program of the United States. Thus instead of helping China and of increasing trade between the United States and China, the Silver Purchase Act hurt China and in all likelihood will have an adverse influence on America's future trade relationship with that country. With the demonetization of silver by China and with the disuse of silver coin in a number of countries in the world, silver has become almost completely demonetized. So long as the United States Government is obligated to buy silver at home and abroad, there will be a market for silver. However, if the Silver Purchase Act should be modified and the Treasury relieved from the obligation of buying silver, there will be no appreciable demand for silver for monetary purposes. The effect of such a development on the price of the white metal is apparent.

COUNTRIES WITH FOREIGN EXCHANGE RESTRICTIONS

With the exception of Austria, where foreign exchange and transfer restrictions have been practically eliminated, the other countries in the world using this method of protecting the value of their currencies still adhere to it. Although the currencies of these countries have nominally remained stable, actually they have depreciated as is evidenced by the fact that blocked currencies, particularly those of Germany and other central European countries, are quoted at rates far below par. In the case of Italy new restrictions were imposed during the year and the Italian Government also issued a decree authorizing the central bank to buy gold at home at a premium of 25 per cent above the mint parity. This devaluation of the lire in terms of gold, however, had no international implications because the lire has ceased to be an international currency and is now used mainly for domestic transactions. The same is true of the mark, particularly since the German Government has prohibited the importation of marks from abroad. The mark, the lire and the rouble, therefore, are primarily domestic currencies.

THE OUTLOOK

The outlook for the world's currencies hinges chiefly upon developments in the gold bloc countries. British economists and bankers have maintained that international stabilization of currencies is out of the question so long as the gold bloc countries have not devalued. Even if the gold bloc does devalue it is uncertain whether a plan for a simultaneous return to the gold standard by the leading countries could be put into effect. The gold standard is predicated on political stability and a reasonably free international interchange of goods and services. These requisites are still lacking and will continue to be lacking as long as the principal nations of the world adhere to the doctrine of economic nationalism and economic self-sufficiency. This doctrine is incompatible with the international gold standard.

FOREIGN TRADE AND THE EXPORT AND IMPORT BALANCE *

By Roland L. Kramer and Ralph A. Young

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DEFINITIVE FIGURES FOR 1934 FOREIGN TRADE

Foreign trade in 1934 continued the expansion of the previous year and totalled $3,788,000,000 compared with $3,125,000,000 in 1933. Exports, including re-exports, were valued at $2,133,000,000 and imports at $1,655,000,000. Exports increased 8 per cent in quantity and 27 per cent in value as compared with 1933, while imports showed no change in quantity but an advance of 14 per cent in value. The "favorable" merchandise trade balance of $478,000,000 was the largest since 1930.

FOREIGN TRADE FOR TEN MONTHS OF 1935

For the ten-month period January-October, 1935, total exports were valued at $1,789,000,000 compared with $1,767,000,000 in the similar period of 1934; and general imports were $1,692,000,000 against $1,372,000,000 in the preceding period. Export trade thus increased but a fraction over 1 per cent while imports advanced 23.3 per cent. As a consequence, the excess of exports over imports which, in the ten-month period of 1934 amounted to $396,000,000, was reduced in the 1935 period to $97,000,000. Gold continued to flow into the country at a greater rate than in 1934, receipts in 1935 being $1,338,000,000 compared with $921,000,000. Likewise, silver receipts were $229,000,000 against $65,000,000 in 1934.

In the export trade, crude materials declined, in proportion of the total from 30.3 per cent to 27.8 per cent, a shrinkage of 7.2 per cent in trade value; while finished manufactures, in the same period, advanced from 42.5 per cent to 46.4 per cent of the total, an increase in trade of 10.1 per cent. Manufactured foodstuffs, the only other export group to change materially, dropped from 8.1 per cent to 6.9 per cent of domestic exports, a reduction of 14.1 per cent in value. Substantial recession occurred in shipments of raw cotton and packing-house products, while in the manufactured group, declines were registered in cotton cloth, tires, lumber, steel-mill products, copper and aircraft. On the other hand, large gains were made in

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* The section of this review on foreign trade was written by Professor Kramer, and that on the export and import balance by Dr. Young.

FOREIGN TRADE AND THE EXPORT AND IMPORT BALANCE

Exports, Imports, and Balance of Trade of the United States

[Values in millions of dollars. Data cover years ended June 30 through 1915; thereafter, calendar years]

Yearly average or year	Merchandise						Excess of exports (+) or imports (−)			
	Exports			General imports	Imports for consumption	Percent general imports were of total exports	Merchandise	Gold	Silver	Merchandise, gold, and silver
	Total	United States merchandise	Reexports of foreign merchandise							
1910-14 .	2,166	2,130	35	1,689	1,678	78.0	+477	+17	+20	+515
1921....	4,485	4,379	106	2,509	2,557	55.9	+1,976	−667	−12	+1,297
1922....	3,832	3,765	67	3,113	3,074	81.2	+719	−238	−8	+473
1923....	4,167	4,091	77	3,792	3,732	91.0	+375	−294	−2	+79
1924....	4,591	4,498	93	3,610	3,575	78.6	+281	−258	+36	+759
1925....	4,910	4,819	91	4,227	4,176	86.1	+683	+134	+35	+852
1926....	4,809	4,712	97	4,431	4,408	92.1	+378	−98	+23	+303
1927....	4,865	4,759	107	4,185	4,163	86.0	+681	−6	+21	+695
1928....	5,128	5,030	98	4,091	4,078	79.8	+1,037	+392	+19	+1,448
1929....	5,241	5,157	84	4,399	4,339	83.9	+842	−175	+19	+686
1930....	3,843	3,781	62	3,061	3,114	79.6	+782	−280	+11	+514
1931....	2,424	2,378	46	2,091	2,088	86.2	+334	−145	−2	+186
1932....	1,611	1,576	35	1,323	1,325	82.1	+288	+446	−6	+729
1933....	1,675	1,647	28	1,450	1,433	86.5	+225	+173	−41	+358
1934....	2,133	2,100	33	1,655	1,636	77.6	+478	−1,134	−86	−742

the value of exports of automobiles, machinery, leather, paper and manufactures, gasoline, advanced iron and steel manufactures, chemicals, photographic goods and a number of other products.

Changes in the foreign markets for American exports during the ten-month periods of 1934 and 1935 witnessed an increase of 9 per cent in shipments to North America, 8 per cent to South America and relatively large improvement in exports to Oceania (23.4 per cent) and Africa (23.8 per cent). Sales to Europe declined 2.3 per cent and to Asia 10.7 per cent. Notable percentage increases by countries were Mexico 17.4 per cent, Cuba 32.4 per cent, Argentina 14 per cent, Chile 33.3 per cent, Australia 28.6 per cent and South Africa 16.2 per cent. Marked advances were registered also in shipments to Poland (20 per cent), U. S. S. R. (50 per cent) and British India (13 per cent). Substantial decline occurred in exports to important European and Asiatic countries, *viz.*, France (14.6 per cent), Germany (35.4 per cent), China (50 per cent) and Japan (9.1 per cent). Shipments to the United Kingdom and to Italy increased by 5 and 8 per cent, respectively.

In imports, changes were much less pronounced than in the export trade. Manufactured foodstuffs improved somewhat by contributing 16.7 per cent of imports for consumption compared with 15.7 per cent in the 1934 period, and showed an increase of 32.2 per cent in the value of trade. Finished manufactures dropped from 21.1 per cent to 19.6 per cent of the total, in spite of an increase of 15.6 per cent in the value. All other groups showed changes no greater than .5 per cent in proportional standing, although increases in the value of trade ranged from 22 to 29 per cent. Imports of agricultural products, due largely to short crops and drought, were materially larger, particularly in meats, butter, grain and feeds, while vegetable oils and oil seeds, sugar, coffee and cocoa increased greatly. In the raw material group, receipts of raw wool, hides and skins, tin, nickel, copper, ferro-alloys, diamonds and wood pulp were larger. Rubber imports represented a greater value in spite of a reduction in quantity.

The expansion in imports during the January-October period was generally distributed throughout the world. Receipts from all continents were larger, percentage increases being for Oceania (43.3 per cent), North America (33.4 per cent), South America (22.4 per cent), Asia (20 per cent), Europe (18.6 per cent), and Africa (17.2 per cent). Of the major sources of imports, the largest advances were recorded in receipts from Argentina (133.3 per cent), Australia (71.4 per cent), New Zealand (80 per cent), Cuba (80 per cent), Belgium (52.4 per cent), China (36.8 per cent), Netherlands (37.5 per cent), United Kingdom (25.2 per cent), Japan (25 per cent), Canada (24.6 per cent), British Malaya (22.2 per cent) and Netherland India (20 per cent). Imports from West Africa improved 50 per cent while Egyptian imports were almost unique in registering a shrinkage of 22 per cent.

FOREIGN TRADE FOR ELEVEN MONTHS OF 1935

Total exports for the eleven month period January-November, 1935 were valued at $2,058,446,000, compared with $1,962,146,000 during the corresponding period of 1934. This represents an increase of 4.9% in exports. General imports for the eleven month period were valued at $1,861,013,000, compared with $1,522,797,000, an increase of 22.2%.

COMMODITY CHARACTER OF 1934 EXPORTS

Finished Manufactures. — Again the leading commodity group of exports, finished manufactures, comprised 41.8 per cent of the total compared with 37.4 per cent in 1933. The value of shipments of finished manufactures was $879,000,000, representing an increase of 42.5 per cent over the 1933 value. This expansion was an outstanding feature of the 1934

Foreign Trade in Merchandise, by Economic Classes

[Values in millions of dollars. Import data are "general" imports through 1933, except 1933 in italics; the latter and 1934 are imports for consumption. Data cover years ended June 30 for 1910-14, thereafter calendar years]

Yearly average or year	Total value	Crude materials		Crude foodstuffs		Manufactured foodstuffs		Semimanufactures		Finished manufactures	
		Value	Per cent	Value	Per cent	Value	Per cent	Value	Per cent	Value	Per cent
EXPORTS OF UNITED STATES MERCHANDISE											
1910-14	2,130	713	33.5	127	5.9	295	13.8	342	16.0	654	30.7
1921	4,379	984	22.5	673	15.4	685	15.7	410	9.4	1,627	37.1
1922	3,765	988	26.3	459	12.2	588	15.6	438	11.6	1,292	34.3
1923	4,091	1,208	29.5	257	6.3	583	14.3	564	13.8	1,478	36.1
1924	4,498	1,333	29.6	393	8.7	573	12.8	611	13.6	1,588	35.3
1925	4,819	1,422	29.5	318	6.6	574	11.9	662	13.7	1,843	38.3
1926	4,712	1,261	26.8	335	7.1	503	10.7	656	13.9	1,957	41.5
1927	4,759	1,193	25.1	421	8.8	463	9.7	700	14.7	1,982	41.6
1928	5,030	1,293	25.7	295	5.9	466	9.3	716	14.2	2,260	44.9
1929	5,157	1,142	22.2	270	5.2	484	9.4	729	14.1	2,532	49.1
1930	3,781	829	21.9	179	4.7	363	9.6	513	13.6	1,898	50.2
1931	2,378	567	23.8	127	5.3	247	10.4	318	13.4	1,120	47.1
1932	1,576	514	32.6	89	5.7	152	9.7	197	12.5	624	39.6
1933	1,647	591	35.9	48	2.9	155	9.4	237	14.4	617	37.4
1934	2,100	653	31.1	59	2.8	168	8.0	342	16.3	879	41.8

IMPORTS											
1910-14	1,689	595	35.2	203	12.0	194	11.5	307	18.2	389	23.1
1921	2,509	859	34.2	300	12.0	368	14.7	362	14.4	620	24.7
1922	3,113	1,180	37.9	330	10.6	387	12.4	553	17.8	663	21.3
1923	3,792	1,407	37.1	363	9.6	530	14.0	721	19.0	771	20.3
1924	3,610	1,258	34.9	425	11.8	522	14.4	665	18.2	749	20.8
1925	4,227	1,748	41.4	495	11.7	433	10.2	755	17.9	796	18.8
1926	4,431	1,793	40.5	540	12.2	418	9.4	804	18.1	877	19.8
1927	4,185	1,601	38.3	505	12.1	451	10.8	750	17.9	879	21.0
1928	4,091	1,467	35.8	550	13.4	406	9.9	763	18.6	906	22.2
1929	4,399	1,559	35.4	539	12.2	424	9.6	885	20.2	994	22.6
1930	3,061	1,002	32.7	400	13.1	293	9.6	608	19.9	757	24.7
1931	2,091	642	30.7	305	14.6	222	10.6	372	17.8	549	26.3
1932	1,323	358	27.1	233	17.6	174	13.2	217	16.4	341	25.7
1933	1,450	418	28.8	212	14.6	205	14.1	292	20.1	322	22.2
1933	*1,433*	*420*	*29.3*	*215*	*15.0*	*191*	*13.3*	*290*	*20.2*	*317*	*22.1*
1934	1,636	461	28.2	254	15.5	264	16.1	307	18.8	350	21.4

export trade. Machinery took second place among all export items, with a value of $218,400,000, an increase of 64.8 per cent compared with 1933. Industrial machinery, the leading sub-group, was valued at $98,300,000, an expansion of 77.9 per cent. Large increases were also registered in the other main sub-divisions; electrical machinery and apparatus $66,500,000, up 52.7 per cent and agricultural machinery and implements, $21,500,000, an advance of 76.4 per cent.

Automobiles, parts and accessories, second in the group of finished manufactures and third leading export item, registered an improvement of 109.9 per cent over 1933, the value being $190,200,000. Passenger automobiles accounted for $78,200,000 of this total, compared with $32,100,000 in 1933. Automobile parts and engines were valued at $64,600,000 contrasted with $36,500,000 in the preceding year. Motor trucks, buses and chassis shared in the general expansion in this line, increasing from $20,100,000 in 1933 to $44,200,000. Refined petroleum products, with an increase of 12 per cent in quantity and of 5.5 per cent in value dropped to third place in the group of finished manufacture exports, the value being $159,500,000. Gasoline declined 10.9 per cent to $51,200,000; illuminating oil, with a value of $20,800,000, showed practically no change; while lubricating oil improved 6 per cent with an export figure of $58,200,000.

Cotton manufactures, with an increase of 10.4 per cent, were valued at $43,500,000. Shipments of iron and steel advanced manufactures expanded 38.9 per cent to $27,700,000; and rubber, principally manufactures, registered an improvement of 22 per cent with a value of $21,800,000. In this group, automobile casings, with increases of 5 per cent in quantity and of 16.6 per cent in value, amounted to $10,500,000. Improvement was also shown in a number of other important items, viz:—

Commodity	Value in 1934	Percent increase from 1933
Paper (mostly mfres.)	$18,900,000	29.3
Aircraft, parts & accessories	17,700,000	94.4
Photographic and projection goods	15,500,000	23.8
Paints and varnishes	14,200,000	215.5
Books and printed matter	12,900,000	13.0
Medicinal and pharmaceutical preps	10,900,000	11.2

Crude Materials.—The second leading group of export commodities, crude materials, advanced 10.5 per cent in value but declined in the proportion of total exports from 35.9 per cent in 1933 to 31.1 per cent. The unit value of crude material exports advanced 32 per cent, the greatest rise in unit value for any of the groups, but on a quantity basis there was a decline of 16 per cent. This is attributable mainly to the 30.3 per cent drop in the quantity of raw cotton shipments, which, due to enhanced price, represented a shrinkage of only 6.4 per cent in value. Unmanufactured cotton was again the leading export commodity, comprising 17.7 per cent of total exports and having a value of $372,800,000. With only a slight increase in the quantity of unmanufactured tobacco shipped, the value of $125,100,000 was 50.8 per cent in excess of the 1933 figure. Exports of coal and coke, at $56,900,000, advanced 22.4 per cent in quantity and 40.8 per cent in value. Crude petroleum shipments increased in quantity by 12.4 per cent and in value by 55.6 per cent to $49,800,000.

Semi-Manufactures. — The third largest group of exports, semi-manufactures, recorded a gain of 44.2 per cent over the 1933 figure, an increase exceeded by no other group, and comprised 16.3 per cent of total exports compared with 14.4 per cent in the preceding year. Iron and steel-mill products increased 109.7 per cent in tonnage and 94.8 per cent in value to $88,700,000. Shipments of chemicals (coal tar, industrial and medicinal), were valued at $57,500,000, an advance of 15.6 per cent. Copper exports expanded 79.1 per cent in quantity and 99.7 per cent in value, to $49,800,000. Sawmill products, at $42,700,000 were up 4.9 per cent in quantity and 32.5 per cent in value. Exports of furs and manufactures advanced 38.3 per cent to $21,100,000; leather expanded 14.7 per cent to $15,800,000; and naval stores, gums and resins, at $14,500,000, were slightly lower in value.

Manufactured foodstuffs, comprising 8 per cent of total exports, were 8.5 per cent higher in value than in 1933, but proportionately less important. Packing-house products declined 16.9 per cent in quantity but the value of $66,500,000 was 1 per cent greater. Lard shipments suffered a volume shrinkage of 25.5 per cent and the value of $26,100,000 was 23.5 per cent lower than in 1933. Meat products, with a value of $35,200,000, were up 37.9 per cent with a quantitative rise of 8.6 per cent. Canned fruits declined 10.3 per cent in volume but improved one per cent in value to $17,300,000. Shipments of wheat flour at $16,900,000 advanced 22.5 per cent in value but only slightly in quantity.

Crude Foodstuffs.—The smallest group of export commodities was crude foodstuffs with 2.8 per cent of the total and with a value 22.1 per cent in excess of the 1933 figure. Fruits and nuts, dried and evaporated as well as fresh, were valued at $56,900,000 a slight increase over the preceding year. Dried and evaporated fruits declined 14.9 per cent in quantity but were substantially the same value, $21,700,000. Fresh apples likewise decreased 8.7 per cent in quantity but were up 6.9 per cent in value to $14,000,000. Wheat registered a large improvement over the low 1933 figure, the increases being 112.6 per cent (9,000,000 bushels) in volume and 114.9 per cent in value to $10,200,000.

IMPORTS

New Classification.—In 1934, statistics of commodity import trade cover ''imports for consumption'' instead of ''general imports'', a classification employed in previous years. The former does not include merchandise entered under bond, but it does include bonded merchandise released for consumption during the year. On this basis, import trade in 1934 was valued at $1,636,000,000 compared with the general import figure of $1,655,000,000.

Crude materials again constituted the leading group of imports, comprising 28.2 per cent of the total and improving 9.8 per cent over 1933. The leading item in the group and third among all import commodities was crude rubber, with an increase of 10.4 per cent in quantity and of 121.4 per cent in value, reaching a figure of $101,600,000. Raw silk dropped to fifth place in the list of imported commodities, declining 16.2 per cent in quantity and 30 per cent in value to $71,800,000. Undressed furs valued at $37,600,000, improved 8.6 per cent. Receipts of hides and skins fell 40.7

per cent in volume and 22.2 per cent in value to $35,300,000. Crude petroleum imports were up 12.1 per cent in quantity and in value 46.3 per cent to $25,900,000. Receipts of unmanufactured tobacco improved 8.7 per cent in volume and 2.2 per cent in value to $25,100,000. Imports of oil seeds declined in both quantity and value by 16.8 and 13.1 per cent, respectively. The reported value of $23,200,000 was comprised principally of flaxseed, with a value of $15,000,000, an expansion of 1.5 per cent in volume and of 10.7 per cent in dollar value. Wool and mohair receipts shrank 28.1 per cent in quantity and 9.5 per cent in value to $16,800,000.

Finished Manufactures.—The second group of imports, finished manufactures, improved 10.5 per cent compared with 1933 and comprised 21.4 per cent of all imports. Paper and manufactures, the leading item in the group and fourth among all imports, advanced 11.1 per cent to $86,500,000. Newsprint alone was up 23.2 per cent in quantity and 11.4 per cent in value to $76,300,000. Receipts of cotton manufactures, with a value of $31,900,000, improved 3.4 per cent. Imports of burlaps dropped 7.7 per cent in tonnage but increased 12.4 per cent in value to $27,500,000. Flax, hemp and ramie manufactures advanced 9.5 per cent to $23,000,000; art works, at $16,200,000, were up 1.6 per cent, and wool manufactures improved 9.4 per cent to $14,700,000.

Semi-manufactures, with 18.8 per cent of imports for consumption, increased 6.1 per cent. Receipts of paper base stocks advanced 9 per cent to $71,200,000; and of this group, wood pulp, with a decline of 7 per cent in tonnage, expanded 7.8 per cent in value to $61,900,000. Chemicals and related products, including fertilizers, were up 9.8 per cent and were valued at $65,100,000. Tin imports fell 37.2 per cent in quantity and 12.6 per cent in value to $44,800,000. Vegetable oils and fats declined 16.3 per cent in volume but improved 1.2 per cent in value to $34,700,000. Receipts of copper expanded 57.6 per cent in tonnage, and 87.3 per cent in value to $27,800,000; diamonds were up 64.1 per cent in quantity and 37.4 per cent in value to $15,400,000, and nickel imports improved 13.4 per cent in volume and 27.5 per cent in value to $13,200,000. Sawmill products declined 3.9 per cent in value to $11,800,000.

Food Stuffs.—Import trade in foodstuffs increased more largely than any other group of imports. Manufactured foodstuffs, with 16.1 per cent of the total, advanced 37.8 per cent in value, while crude foodstuffs, with 15.5 per cent of total improved 18 per cent over 1933. The expansion in foodstuffs imports is attributable largely to greater receipts of alcoholic beverages and of certain farm products in which domestic production was abnormally low. Coffee, the leading imported commodity with 8.1 per cent of total, declined 3.9 per cent in quantity but advanced 7.3 per cent in value to $133,200,000. The second leading imported commodity—cane sugar—comprised 7.2 per cent of total imports and advanced 5.7 per cent in volume and 12.1 per cent in value to $117,600,000. Receipts of wines and spirits, with a value of $49,100,000, improved 568.3 per cent. Imports of fruits and nuts were up 21.8 per cent to a value of $45,700,000; receipts of fish improved slightly in quantity and expanded 6.4 per cent in value to $23,200,000; cocoa and cacao beans declined 6.9 per cent in quantity but increased in value by 3.4 per cent to $19,400,000; while vegetables (and preparations) and tea, each valued at $16,300,000, represented advances of 8.3 and 18.7 per cent, respectively. The quantity of tea was 20.9 per cent less, however. Receipts of grains were abnormally large. Wheat imports increased 79.7 per cent in quantity and 151.3 per cent in value to $14,500,000 and other grains (corn, oats, rye, barley) were up 135.3 per cent in volume and 191.3 per cent in value to $11,700,000. Receipts of meat products likewise advanced 7.2 per cent in quantity and 37.9 per cent in value to $12,800,000, while imports of spices ($10,700,000) improved 2 per cent in quantity and 32.9 per cent in value. Dairy products declined 1.7 per cent to $10,900,000.

Foreign Trade by Continents and Great Trade Regions

(Exports include reexports of foreign goods. Data for 1910-14 cover years ended June 30; all other are for calendar years. The Philippine Islands are included in Asia for all years; Turkey in Europe is included in Asia beginning 1928.)

[Values in millions of dollars]

Yearly average or year	Total Value	North America				South America		Europe		Asia		Oceania		Africa	
		Northern		Southern											
		Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
EXPORTS															
1910-14..	2,166	320	14.8	181	8.4	121	5.6	1,350	62.3	121	5.6	48	2.2	25	1.1
1921.....	4,485	600	13.4	529	11.8	273	6.1	2,364	52.7	533	11.9	113	2.5	73	1.6
1922.....	3,832	583	15.2	332	8.7	226	5.9	2,083	54.4	449	11.7	102	2.7	56	1.5
1923.....	4,167	661	15.8	426	10.2	269	6.5	2,093	50.2	511	12.3	146	3.5	61	1.5
1924.....	4,591	634	13.8	456	9.9	314	6.8	2,445	53.3	515	11.2	157	3.4	70	1.5
1925.....	4,910	659	13.4	480	9.8	403	8.2	2,604	53.0	487	9.9	189	3.9	89	1.8
1926.....	4,809	748	15.5	429	8.9	444	9.2	2,310	48.0	565	11.7	213	4.4	101	2.1
1927.....	4,865	845	17.4	408	8.4	438	9.0	2,314	47.6	560	11.5	194	4.0	107	2.2
1928.....	5,128	924	18.0	397	7.7	481	9.4	2,375	46.3	655	12.8	180	3.5	117	2.3
1929.....	5,241	961	18.3	434	8.3	539	10.3	2,341	44.7	643	12.3	192	3.7	131	2.5
1930.....	3,843	671	17.5	349	9.1	338	8.8	1,838	47.8	448	11.7	108	2.8	92	2.4
1931.....	2,424	404	16.7	187	7.7	159	6.5	1,187	49.0	386	15.9	42	1.7	60	2.5
1932.....	1,611	246	15.3	119	7.4	97	6.0	784	48.7	292	18.2	37	2.3	36	2.2
1933.....	1,675	215	12.8	126	7.5	114	6.8	850	50.7	292	17.4	35	2.1	43	2.6
1934.....	2,133	308	14.4	178	8.3	162	7.6	950	44.5	401	18.8	57	2.7	77	3.6
GENERAL IMPORTS															
1910-14..	1,689	119	7.0	229	13.5	207	12.2	836	49.5	259	15.3	17	1.0	23	1.3
1921.....	2,509	338	13.5	417	16.6	296	11.8	765	30.5	618	24.6	35	1.4	40	1.6
1922.....	3,113	367	11.8	456	14.6	359	11.5	991	31.8	827	26.6	49	1.6	65	2.1
1923.....	3,792	418	11.0	583	15.4	467	12.3	1,157	30.5	1,020	26.9	59	1.6	87	2.3
1924.....	3,610	402	11.1	593	16.4	466	12.9	1,096	30.4	931	25.8	49	1.4	73	2.0
1925.....	4,227	459	10.9	522	12.3	519	12.3	1,238	29.3	1,319	31.2	78	1.8	92	2.2
1926.....	4,431	486	11.0	526	11.9	568	12.8	1,286	29.0	1,401	31.6	68	1.5	96	2.2
1927.....	4,185	484	11.6	501	12.0	518	12.4	1,276	30.5	1,257	30.0	55	1.3	93	2.2
1928.....	4,091	500	12.2	461	11.3	569	13.9	1,249	30.5	1,169	28.6	53	1.3	90	2.2
1929.....	4,399	514	11.7	467	10.6	640	14.5	1,333	30.3	1,280	29.1	57	1.3	109	2.5
1930.....	3,061	414	13.5	347	11.3	434	14.2	909	29.7	856	28.0	33	1.1	68	2.2
1931.....	2,091	277	13.3	240	11.5	307	14.7	640	30.6	574	27.5	19	.9	33	1.6
1932.....	1,323	181	13.7	157	11.9	201	15.2	389	29.4	362	27.4	8	.6	24	1.8
1933.....	1,550	191	13.2	127	8.8	202	14.0	462	31.9	426	29.4	13	.9	28	1.9
1934.....	1,655	238	14.4	161	9.7	229	13.8	489	29.6	490	29.6	15	.9	33	2.0

FOREIGN MARKETS

Europe.—Exports to all continents registered an increase over 1933. While still the leading market for U. S. merchandise, Europe took 44.5 per cent of total exports compared with 50.7 per cent in the preceding year. Shipments to that continent increased 11.8 per cent in value, the smallest percentage improvement for any of the great trade regions. The United Kingdom was again the leading market for U. S. exports, taking $382,700,000 worth, an increase of 22.8 per cent. The largest expansion in sales to Europe, with the values and percentage of increase, was with Sweden, $33,100,000 (77.8 per cent), U.S.S.R. $14,900,000 (70.2 per cent) and Norway $11,200,000 (57.9 per cent). Other European countries to which exports advanced were Italy with $64,600,000, up 5.5 per cent; Netherlands, $51,000,000, an increase of 4.7 per cent; Belgium $50,000,000; an advance of 15.6 per cent; Spain, $38,000,000, an improvement of 23.6 per cent; Poland and Danzig, $18,900,000, up 24.9 per cent. Shipments to two major European countries, France and Germany, declined 4.9 and 22.3 per cent to a value of $115,700,000 and $108,700,000 respectively.

Asia was again the second continental market for American exports with an advance of 37.3 per cent and purchasing 18.8 per cent of total. The increase was generally distributed among Asiatic countries. The third leading country in the export trade, Japan, took 9.9 per cent of total exports. Shipments to Japan increased 46.7 per cent to $210,500,000. Sales to China improved 32.2 per cent to a value of $68,700,000, and British India expanded 38.2 per cent to $27,400,000. Shipments to the Philippine Islands were up 5.2 per cent to $47,100,000. Other countries showing large proportionate increases but with exports not exceeding $10,100,000 were British Malaya 75.9 per cent, Kwantung 46.3 per cent and Netherland India 46.1 per cent.

Latin America.—So-called Latin America (Southern North America and South America) accounted for 15.9 per cent of total and expanded 41.5 per cent. Mexico was the leading Latin-American market with $55,100,000, an increase of 46.8 per cent. Cuba advanced 80.6 per cent to $45,300,000; Argentina was up 15.6 per cent to $42,700,000; Brazilian shipments improved 35.8 per cent to a value of $40,400,000, and Colombia and Venezuela, with $21,900,000 and $19,300,000, advanced 48.7 and 47.0 per cent respectively. Although less important, Chile recorded a notable expansion of 126.1 per cent to $12,000,000 and shipments to Peru rose 98.4 per cent to a value of $9,900,000.

Northern North America, with 14.4 per cent of total exports, advanced 43.4 per cent. Canada, second leading world market with $302,400,000 improved 43.6 per cent. The largest relative expansion in export trade occurred in shipments to Oceania and Africa, percentage increases being 62.6 and 79 respectively. Australia advanced 64.5 per cent to $43,200,000 and New Zealand rose 58 per cent to $13,000,000. British South Africa recorded an improvement of 106.3 per cent to a value of $46,300,000, while exports to Egypt were up 79.9 per cent to $6,900,000.

SOURCES OF IMPORTS

Asia.—Imports from all continents increased in 1934 over 1933. Asia gained the leadership over Europe by a very slight margin, the two continents being practically even. Shipments from Asia advanced 15 per cent and comprised 29.6 per cent of general imports. Japan was second to Canada as a source of American imports, declining 7.1 per cent to $119,300,000. Receipts from the Philippine Islands were 5.6 per cent less and were valued at $87,800,000. All other important Asiatic markets increased in sales to the United States. British Malaya, in fourth place among all countries, improved 76.1 per cent to $105,500,000; British India with $55,100,000 was up 25.9 per cent; China increased 16.2 per cent to $43,900,000; and Netherland India rose 28.3 per cent to $42,400,000.

Europe also supplied 29.6 per cent of general imports and improved 5.8 per cent in the value of trade. The only major European countries from which our purchases declined were Germany, Italy and Netherlands. German shipments shrank 12 per cent to $68,800,000; Italy was down 7.3 per cent to $35,700,000, and Netherlands fell 8.1 per cent to $28,400,000. The United Kingdom was third as a world source of American imports, supplying a value of $115,400,000, an improvement of 3.7 per cent. Imports from France were up 22.8 per cent to $61,000,000, and Swedish shipments increased 9.6 per cent to $33,900,000. Receipts from Belgium were valued at $26,200,000, an advance of 13 per cent; Spain rose 38 per cent to $18,900,000, and Norway, with $16,900,000, was up 28.8 per cent. Although the trade was valued at only $5,600,000, Poland and Danzig increased 110.3 per cent, and U. S. S. R. with $11,900,000 was up 5 per cent.

Latin America supplied 23.5 per cent of general imports, an improvement of 18.3 per cent in value. Brazil was the leader with $91,500,000, an advance of 10.7 per cent; Cuba with

$78,900,000, increased 34.9 per cent; Colombia declined 1.1 per cent to $47,100,000, and Mexico rose 18.8 per cent to $36,500,000. Imports from Argentina fell 12.9 per cent to a value of $29,500,000, while Chilean receipts expanded 99.2 per cent to $22,900,000. Venezuela, with $22,100,000, was up 64.5 per cent and Peru, with $6,200,000 increased 13.1 per cent.

Northern North America, with 14.4 per cent of general imports, showed an improvement of 25.6 per cent. Canada, leading source of American imports, with 14 per cent of the total, advanced 25 per cent to $231,700,000.

Africa.—Receipts of merchandise from Africa increased 17.9 per cent and comprised 2 per cent of general imports. Egypt, with $9,000,000, was up 46.1 per cent; while British South Africa declined 21.8 per cent to $3,200,000. British West Africa, with $9,200,000, registered a shrinkage of .7 per cent.

Oceania advanced 10.4 per cent and supplied .9 per cent of general imports. Australia improved 10.9 per cent to $8,500,000 and New Zealand was up 16.7 per cent to $5,600.00.

ACTIVE BALANCE OF MERCHANDISE TRADE

Merchandise exports again exceeded imports in 1934, thus maintaining unbroken our national trade record of some three-score years. In contrast with the balance for 1933, which was one of the smallest since 1895, the balance for 1934 approached the average peace year balance of the past four decades. Although only 58 per cent as much as the excess of exports in 1929, the 1934 surplus of $474,000,000 was more than twice as great as that for 1933.

The export balance for 1935 contrasts sharply with that for 1934. Amounting to only $29,000,000 for the first six months as against $171,000,000 for the first half of 1934, it rose to only $66,000,000 by the end of nine months as compared with $317,000,000 for January to September, 1934. Exports for the partial year period were slightly less than in the preceding year both in value and volume.

An active (export) or a passive (import) balance of merchandise trade is the resultant product of an intricate combination of economic and other influences. No simple explanation of either kind of balance is sufficient.

Among the major factors affecting the sharp recovery of the 1934 trade balance, the substantial and consistent improvement of business activity in important markets was undoubtedly of prime importance in expanding exports. In addition, enlarged military and armament expenditure by many foreign governments was probably a source of many special demands for American products. On the other hand, the slowing down of domestic business activity after the upward surge of the early spring probably acted as a check on imports.

Dollar devaluation officially proclaimed on Jan. 31, 1934, following a depreciation of the dollar in international markets of over 41 per cent, initiated a number of special influences affecting both our export and import trade. By eliminating uncertainty over the gold value of the dollar, devaluation brought into the market delayed demands for American goods and caused an abatement of American demands for foreign goods previously stimulated in 1933 by dollar depreciation. In addition, to the extent that dollar depreciation and devaluation arbitrarily lowered the prices of American manufactured exports to foreigners, larger purchases were probably induced by the latter, while to the extent that dollar revaluation arbitrarily raised prices to Americans of many imports and enhanced the burden of our tariff, a check on American imports doubtless resulted. Finally, the abrupt rise of domestic foodstuffs and raw material prices for 1934 over 1933 possibly affected the value of exports. Though the quantity of such exports was greatly reduced, the higher export prices served to maintain export values for these classes of goods.

The rise of imports relative to exports during the first half of 1935 and the resulting decline of the export balance is to be explained largely by a reversal of economic tendencies which had characterized 1934. Domestic business activity maintained a much higher level than in 1934, while activity in important foreign markets was little if any higher and in some areas, due mainly to political and military uncertainties, slightly lower. Price changes for important export and import classes were generally small, and a fair degree of stability characterized the foreign exchange markets, reflecting a lessened influence of capricious monetary and speculative factors.

SETTLEMENT OF THE "ACTIVE" MERCHANDISE BALANCE

The devaluation of the dollar on Jan. 31, 1934, temporarily re-established a modified gold standard for the United States internationally. Accordingly, the process of adjustment of the 1934 and 1935 merchandise balances may again be described broadly in the light of a gold standard system. Under this system, international merchandise transactions are settled, along with other international transactions involving services, capital and income transfers and other cash payments, by mutual clearance in the foreign exchange markets at a relatively fixed gold value for the dollar. Each of these types of transactions are closely inter-related by monetary and trade influences, though each possesses a certain degree of in-

Balance of International Payments of the United States

(for 1933, 1934, and the first six months of 1934 and 1935)
[Value in millions of dollars]

Item	1933, Full Year		1934, Full Year		1934, First Six Months		1935, First Six Months	
	Dollar Payments	Dollar Receipts	Dollar Payments	Dollar Receipts	Dollar Payments	Dollar Receipts	Dollar Payments	Dollar Receipts
1. Merchandise Balance	+225	....	+478	....	+173	....	+29	....
Exports	1,675	....	2,133	....	1,030	....	1,024	....
Imports	....	1,450	....	1,655	....	863	....	995
2. Service Balance	....	−373	....	−340	....	−174	....	184
Tourist expenditures	71	292	84	314	25	105	43	146
Immigrant remittances	3	135	5	129	....	58	....	64
Shipping and miscellaneous	252	272	291	287	....	161	131	148
3. Capital Balance	....	−426	+338	....	+530	....	+609	....
Security and investment funds	1,505	1,456	1,160	958	310	....	60	....
Short-term capital funds[1]	....	475	136	....	220	....	549	....
4. Capital Income Balance	+404	....	+328	....	+160	....	+145	....
Interest and dividends[2]	507	103	454	126	185	25	215	70
5. Gold and Silver Balance	+133	....	....	−1,303	....	−931	....	−881
Gold[3]	737	563	56	1,273	15	935	3	805
Silver	19	60	17	103	8	19	12	91
6. Residual Balance[4]	+37	....	+499	....	+231	....	+282	....

[1] Including net currency movements.
[2] Including war debt payments.
[3] Including earmarking operations of foreign central banks with the Federal Reserve Banks.
[4] Due to the influence of lags, unestimated capital and other items.

dependence from the rest. Their chance interplay always goes a long way in their equating, with gold shipments serving to effect a final balance of them all. The accompanying table, presenting a summary of the ''balance of international payments'' of the United States for 1933 and 1934, and also for the first six months of 1934 and 1935, supplies a statistical picture of the process.

THE SERVICE BALANCE OF TRADE

What is generally regarded as the service balance of trade is the balance remaining from offsetting international payments for freights, government expenses, tourist travel, immigrant remittances, royalties and similar so-called ''invisibles''. Consistently ''passive'' in the post-war period, this balance has regularly exceeded the ''active'' merchandise balance since 1923. It has been, therefore, an important source of dollars enabling foreigners to meet their excess of merchandise imports from the United States without shipments of gold, and it has also been an important source of dollars for facilitating interest and capital payments by foreigners to the United States. Its peak was reached in 1929, when the total net ''passive'' service balance aggregated $1,166,000,000, but the effects of the depression on the main service components (net shipping, tourist, and immigrant payments) brought this total down to the low of $340,000,000 in 1934.

As in 1933, the ''passive'' service balance for 1934 was adversely affected by the low physical volume of international trade and shipping, and the comparatively low level of American incomes, despite some economic recovery, and the unsettled state of foreign political and economic affairs. The first of these factors meant reduced international payments for freights, the second reduced immigrants' remittances, and the second and third together reduced foreign travel by Americans. In varying degree these factors continued to operate in 1935, tending to prevent a rapid improvement in the ''passive'' service balance. For the first six months of 1935, the Department of Commerce estimated a net ''passive'' balance of $184,000,000, as against $174,000,000 for the first half of 1934. Since this period covered the seasonal lows both for trade and travel, however, a slightly higher annual balance may possibly be presaged for 1935.

THE CAPITAL BALANCE

The capital balance for 1934, the annual balance of all long- and short-term investment transactions, was ''active'' rather than ''passive'', as has been the rule throughout the post-war period. In other words, the United States in 1934 was on balance a capital importer. The accounted-for active capital balance aggregated $338,000,000, and, judging by the large residual balance for unestimated items in the official ''balance of payments'' reports, it may have exceeded this total by $200,000,000 to $300,000,000 more. The first six months of 1935 witnessed a repetition of an active capital balance, estimated at $609,000,000, but possibly totalling from $700,000,000 to $800,000,000. While in 1934 the net flow of long-term capital funds apparently exceeded the net flow of short-term funds, the reverse condition obtained in the first half of 1935.

This sharp reversal of the capital balance in 1934 and 1935 (first six months) is probably to be interpreted as a temporary phenomenon. In 1934, for example, the balance was largely but not entirely provoked by devaluation of the dollar. Immediately following official dollar devaluation, a large inflow of American-owned capital, placed abroad for safekeeping during the period of dollar depreciation, occurred. This inflow, in turn, was supplemented by an influx of foreign capital, partly seeking a temporary refuge from unsettled financial and political conditions in Europe and elsewhere, and partly seeking participation in anticipated American recovery. As time passed by, the repatriation of American capital tended to slow down, but the inward movement of foreign capital continued, accelerated from time to time by recurring fears of serious financial and political disturbances, particularly in Europe. The acuteness of the latter cause of our recent excess of capital imports was reflected in 1935 in the overwhelming influx of short-term capital funds.

THE CAPITAL INCOME BALANCE

The capital income balance, reflecting the huge international creditor position of the United States, was again an active balance. Amounting to $328,000,000, (including war debt payment), it was only 38 per cent of the peak year balance of $857,000,000 for 1930, and but three-fourths of the 1933 balance of $426,000,000. For the first six months of 1935, official estimates placed the balance at $145,000,000, as against $160,000,000 for the initial half of 1934.

The cumulative effect of foreign defaults on dollar obligations, private and governmental, low earnings and dividends from American-owned factories and properties abroad, some liquidation of American foreign assets, together with a somewhat reduced return on their American investments, suffice to account for the greatly reduced capital income balance from 1930. The continued reduction of the balance in the past two years of world recovery is probably to be explained by the more rapid financial readjustment and recovery of foreign investments in the United States than of American investments abroad.

THE GOLD AND SILVER BALANCE

With official devaluation of the gold dollar and the restoration of a modified gold standard system, internationally at least, gold movements once more assumed an important role in adjusting the balance of international transactions of the United States. Gold movements were resumed directly with gold standard countries, and, through the mediation of the London gold market, with the world at large. In addition, near-by gold producing countries commenced anew to market gold in the United States, as did also a few non-producing but favorably located countries desirous of disposing of gold stocks. For 1934 as a whole, the United States imported on balance $1,217,000,000, valued at the new gold content of the dollar, or approximately 30 per cent more than the entire world's gold production for the year. During 1935, an import gold balance continued to be necessary to settle the nation's international transactions, totalling $802,000,000 for the first six months, or roughly 60 per cent more than the world's gold production for the period.

For the first time in this review, special attention is devoted to the silver balance. This is made necessary by the Silver Purchase Act of 1934, declaring it to be national policy for our monetary reserves to be comprised of one-fourth silver and directing the Secretary of the Treasury to carry out this policy, purchasing silver at home or abroad for the purpose. Foreign silver purchases made by the Treasury in pursuance of this policy were largely responsible for the silver import balance of $86,000,000 for 1934, and of $79,000,000 for the first half of 1935. Judging from trade figures for eleven months, silver imports may well exceed exports for the full year 1935 by more than $300,000,000. Other balances for 1934 and 1935 being what they were, the main effect of enlarged silver imports as a result of national silver policy has been to reduce the balance of gold imports. This has relieved pressure somewhat on international financial markets, but the effect domestically has been the same as if the imports had been in gold. As our monetary law now stands, an importation of gold or silver may lead, and probably will lead, to an equivalent inflation of our domestic money supply.

CONCLUSION

Viewing the 1934 balances of international transactions together, it is manifest that many of the shifts which took place were materially conditioned by the depreciation of the dollar in 1933 and its devaluation early in 1934, and by the generally unsettled state of international finance and politics. The active merchandise balance was about offset by the passive service balance. The active capital and capital income balances were about offset by the passive gold and silver balance.

For 1935, a somewhat different summary applies. Forces growing out of dollar depreciation and devaluation had partly spent themselves and could scarcely have exerted a determining influence on the course of events. Unsettled international finance and politics, rendered the more unsettled by the Ethiopian "war," continued, nevertheless, to generate special forces and tensions. In contrast with 1934, the passive service balance substantially exceeded the active merchandise balance, leaving a margin available for financing the active capital and capital income balances. So large were these combined balances, however, that gold imports on an unprecedented scale continued to be necessary. Silver imports, growing out of the application of the national silver policy adopted in 1934, alleviated to some extent the burden of settling our international accounts by gold imports.

FOREIGN TARIFFS AND TRADE CONTROLS

By Henry Chalmers

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CONTINENTAL EUROPE

Uncertainty of Policy.—The tremendous number of changes on the Continent of Europe during 1935 in duties, quotas, exchange allocations, monopoly controls and the like, and the many agreements made and unmade between governments regarding these various forms of trade regulation, render extremely difficult any attempt to appraise the complicated developments of the year in this field. In very few of the European countries does there stand out from the year's mass of particular changes any distinct pattern or progress toward definite commercial policies. This very fact, however, may itself be a significant indication that most governments on the Continent have not yet come to clear policies or confident programs with regard to foreign trade. Responding to various and changing pressures, they appear to have been led, during the past year, to replace one measure or arrangement found unsatisfactory with another that was not greatly different, or to continue on the one hand to restrict imports through short-term and arbitrary devices and to persist on the other hand in efforts to maintain and enlarge their exports. Tied up with financial and other considerations as trade-control arrangements are at this time, this uncertainty and opportunism of policy may also explain why many European countries during the past year entered into such a variety of agreements, of almost as many types as the countries dealt with, and with one agreement often inherently inconsistent with the others.

Dominance of Quantitative Controls.—Lacking new directives or outstanding developments of a long-time character, the events of 1935 on the Continent of Europe were largely by way of continuation or working out of measures adopted or set in motion during the preceding year.* Quantitative controls and agreements continued during the past year as the dominant regulators of foreign trade. By the end of 1935, few countries of Continental Europe were entirely free from some form or degree of import quota, license requirements, or exchange control, or were without agreements of a compensating or clearing nature with some other countries, whether negotiated upon their own initiative or entered into under pressure from the other side. The extreme form of such regulation was reached in Germany and Italy, where practically all imports and many classes of exports are under strict, complicated and often arbitrary license and exchange controls. However, in view of the special current objectives of these governments, including the maintenance of currency values and the increase of armaments, their present control systems may be regarded as exceptional.

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* See review THE AMERICAN YEAR BOOK 1934, pp. 364-66.

While some few quotas have been given up, the tendency of the year in most European countries has been to continue earlier quota or license limitations on imports at about the global level of 1934, and to extend them from time to time to additional commodities. This has been more marked in some countries than in others, with exchange control upon means of payment often used interchangeably with direct limitation upon imports, or even overshadowing it. In fairness, it should be observed that quantitative limitations have at times been used to safeguard the level of imports from increasing instead of restricting them below the earlier level. There has been an increasing tendency to regulate imports by requiring a license for each transaction, without periodic announcement of definite quotas, or apportionment among the usual supplying countries or importing firms. On the other hand, the trend in a few of these countries has been toward replacing absolute quotas with tariff quotas, whereby specified amounts of particular products are to be admitted under reduced rates of duty, with additional quantities admissible but only upon the payment of the former or even higher duties. In at least two important countries, Netherlands and France, an increased tendency was evident toward preferential treatment in their colonial possessions for goods originating in the mother country, and *vice versa*.

Along with quantitative regulation of imports, whether carried on by individual merchants or under some form of centralized or monopoly control, there have been growing up during the past year systems of import license taxes, "monopoly fees" or similar surtaxes on imported products. The rates either vary with the commodity, much as tariff schedules, as in France—indeed, sometimes exceeding the regular duties—or are assessed at a uniform *ad valorem* level, as introduced by Italy. The frequent changeability of these fees, as well as in the quantities and conditions of permitted imports—even upon readiness to pay all the set duties and fees—naturally makes much of current international trading on the Continent of Europe an unstable and precarious matter.

Quota Agreements.—As in the past few years, trade agreements by European countries, mostly with each other, have been numerous, often quite limited as to scope, and usually short as to duration. For the most part, the agreements of the past year have continued to deal more with this new superstructure of quantitative and compensatory trade arrangements and less with import duties, the old and basic form of international trade control. In a number of cases, the agreements of the past year have provided for reductions in duties and related matters, the benefits of which are still, under the traditional practice, usually generalized also to most other countries able to compete for the trade. In the great majority of important cases, however, the advantages or undertakings exchanged between a particular pair of countries have been distinctly exclusive or trade-diverting in purpose, without any intention of following the old practice of affording equality of competitive opportunity to suppliers in different countries.

Bilateral Trade Balancing.—The beguiling idea so prominent in recent years that a country's trade and financial position would be improved and more secure if planned and adjusted to a bilateral balance with each other country, has also continued to play an important part in the European trade agreements of 1935. It is by now a familiar story * how various European countries whose nationals happened to buy more in a particular country than they sold there took advantage of that fact to force special advantages in their favor by insisting either that the other country should even up the trade balance by granting lower duties or increased quotas for their distinctive products, or that the surplus current exchange be used for preferential payments on debts or interest due their nationals. It was apparently not fully realized that, under the normal triangular development of international trade, any given country was bound to have a favorable balance with some other countries, and that those others might in turn similarly press their advantage where they could to obtain special benefits for their trade and debts. The past year has afforded numerous instances both in Europe and elsewhere of such repercussions to this practice; and unfortunately these have reacted to the injury not only of countries who first resorted to this practice but also of others, such as the United States, who had abstained.

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* See references in THE AMERICAN YEAR BOOK for 1933 and 1934.

Difficulties of Replacing Present System.—By 1935, the ineffectiveness of most of the arrangements based on the bilateral trade balancing principle, either in enlarging the volume of the country's total export trade or of definitely readjusting the trade balance except on a lower and costlier level, had already become apparent in many of the cases. Various governments have admitted their unsatisfactory experience with "clearing agreements" in replies to a League of Nations inquiry on the subject during the past year; and the League committee of experts studying the subject concluded that, except as a most temporary expedient, such bilateral balancing arrangements were so ineffective, and involved so many grave drawbacks that the system should not be extended, and should be abolished as soon as any other arrangements could possibly be made.

It seems significant that representative business leaders from many countries, meeting this past summer at the Congress of the International Chamber of Commerce at Paris, in the heart of the Continent where these restrictive and trade-diverting devices have been most widely applied during recent years, reasserted "the essentially multiangular character of international trade", declared themselves strongly in favor of "the mitigation of existing barriers to trade", denounced the policy of national self-sufficiency as inviting sure disaster", if generally pursued, and urged that bilateral trade agreements on substantially the old unconditional most-favored-nation basis be negotiated as rapidly as possible. A resolution along remarkably similar lines resulted from the discussions in the Annual Assembly of the League of Nations in September, in which the representatives of the majority of the governments declared that, even before the reestablishment of an international monetary standard becomes possible, "effective steps might be taken with a view to the removal of impediments to the exchange of goods, and that such a removal is indispensable if the economic recovery of which signs are now apparent is to be developed". For the second year the aggregate exports of the countries on the European Continent have been running lower (in gold values) than during the same months of preceding years, while the trade of most other parts of the world either improved over previous years or held its own during 1935. This fact may have accelerated the recognition on the Continent of the desirability of a broader and freer exchange of products between the nations on a more liberal basis, both to help lagging domestic recovery programs through enlarged foreign outlets and as an aid in the adjustment of financial and other international problems. However, the uncertainties of the general political prospect, and the still unstabilized state of international currency relations, despite the substantial steadiness of exchange rates between the principal group of currencies for almost two years, apparently add to the difficulties of a rapid replacement of the network of the complex and arbitrary foreign trade arrangements developed during the depression by measures and methods that are simpler and admittedly sounder in the long run.

Progress Toward Liberal Trade Controls.—In the case of only a few of the European countries does examination of the situation early in 1936 indicate actual progress of a substantial character during the past year toward more liberal conditions of admission either of foreign products as a whole or of the products of countries important in their economy. Thus, as a result of the agreements entered into during the past year, the tariffs or other import control systems of only the following countries might be regarded on the whole as less restrictive than they were a year ago: Belgium (as a result of the trade agreements with the United States as well as with France, Germany and Italy), Sweden (as a result of the agreements with France and Spain, as well as with the United States), Poland (as a result of the agreements with the United Kingdom, Canada and Germany), Norway (principally the French agreement), the Netherlands (principally as a result of the agreement with the United States), and Switzerland (resulting from the agreement with the United States entered into early in January, 1936). Such aspirations as had developed in Europe for making a start toward breaking through the trade constricting chain received considerable encouragement, during the past year, from the announced readiness of the United States to enter into trade agreements for the reciprocal reduction of barriers of every kind, and built on the very bases which representatives of business and spokesmen of governments had endorsed.

Among the trade-liberating agreements just listed will be noted agreements with the United States on the part of four European countries—Belgium, Sweden, the Netherlands and Switzerland. These agreements are particularly significant for their reassertion of the unconditional most-favored-nation principle, and for its application also to quantitative controls of every kind as well as to its original field of import duties; in fact, the principal concessions or assurances in the last two of these agreements have been largely in the matter of quotas, monopoly purchases and monopoly fees. The year 1935 also saw the termination of the long-standing tariff wars between Germany and Poland and between Czechoslovakia and Hungary, through the bringing into operation of agreements whereby these two pairs of countries granted each other most-favored-nation treatment plus reciprocal advantages on extensive lists of products of importance to each other. In this connection might be mentioned also the settlement of a number of tariff disputes of shorter duration, involving mainly France (in the course of which France has by now agreed to reduce to two per cent as regards almost all countries the import [turnover] taxes of 4 and 6 per cent levied for several years past) and Portugal (resulting in the removal as regards an additional number of countries of the discriminatory duties on goods brought in foreign ships).

In addition, steps have been taken in a number of countries which promise progress during 1936 toward liberalization of existing trade control systems. The governments of France and of the Netherlands, both of which have been very active in the use of quotas and other quantitative controls, have recognized the greater handicaps to trade from such measures than under tariffs and have under investigation the possibility of replacing some of the existing import quotas by other measures. Greece has introduced a simpler quota system, and Turkey has liberalized the scope of its quota control.

Trade Limitations Involving Italy.—The new program of limitations upon trading with Italy that was being initiated toward the close of 1935 by a large number of countries over the world, whether under the League of Nations' efforts in connection with the Italo-Ethiopian conflict, or arising from the neutrality position of certain individual countries, combined with the threatened counter-restrictions on the part of Italy upon the trade of these countries, obviously has potentialities of serious derangements in international commerce. However, as 1936 opens, the program is still in too early and changeable a state to allow of its evaluation as a development in commercial policy.

BRITISH EMPIRE

Current Trade Policy.—The widely scattered areas constituting the British Empire have been marked during recent years in the matter of commercial policy by their continued dependence upon import duties as the primary regulators of import trade. None of these areas has resorted to the control of exchange for the payment of current purchases and, with the exception of the growing system of general quotas in the Irish Free State, the foodstuff quotas in the United Kingdom and the piece goods quotas in the crown colonies, they have rarely applied quantitative limitations on imports. In general, therefore, the developments in this field in the British Empire can be viewed primarily in terms of the tariff duties. Two things need to be kept in mind, however: the Ottawa Agreements of 1932, whereby the various British areas undertook to divert to each other, through special tariffs or other preferential measures, the purchases of their import requirements hitherto supplied from non-Empire countries; and the program to revive home agriculture initiated in the United Kingdom in 1933, that has involved limitations upon imports of a series of important food products through a system of quotas, from most of which Empire areas have thus far been exempt.

English Food Controls and Treaties.—In the mother country, there have been no important extensions during 1935 in this new program for the fostering of domestic production of certain foodstuffs, which now includes wheat and wheat flour, meats, eggs, and dairy products. Aside from the pressure of dissatisfaction with the program expressed at home, a more definite long-time food policy for the United Kingdom is expected to emerge during 1936, in connection with the re-negotiation of the trade agreements with various non-Empire countries that are due to expire this coming year.

The year saw many changes in the import duties of the United Kingdom, with the duties of certain products increased or supported by alternative specific rates, and reduced or waived on selected materials. It is not clear whether these represent a definite line of development of the general British tariff adopted in 1932, or simply piecemeal adjustments in particular lines. A noteworthy development was the temporary reduction of certain increased duties on iron and steel products, as a result of a marketing agreement between the British Iron and Steel Federation and the Continental Steel Cartel, involving division of certain Continental markets as well as that of the United Kingdom.

The trade agreements entered into by the United Kingdom during the past year with the Irish Free State, India, Poland, Italy, Uruguary, and Turkey were notably diverse in their provisions. The most prominent objectives appear to have been conservation of existing trade or efforts toward bilateral trade balancing. With the exception of the restoration to the Irish Free State of part of its earlier share in the cattle imports of the United Kingdom, without change in the penalty duty, in return for an undertaking to purchase all imported coal from the United Kingdom, and of the elimination of the Ottawa-Agreement duty on figs and fig cake in the negotiations with Turkey, none of the British agreements of the year appears to have involved any reductions of consequence in the existing duties of the United Kingdom or any increases in the total amounts of the products under quota allowed admission.

Canadian-American Trade Agreement.—From the viewpoint of American exporters, undoubtedly the outstanding development of the year in this field in the British Empire was the conclusion of a reciprocal trade agreement between Canada and the United States, coming into effect essentially at the beginning of 1936, whereby these two neighboring countries, which have been the second largest customers for each other's exports, reversed the policy pursued during recent years of restricting their purchases from each other. While negotiations had been initiated some time back, the signature of this trade agreement of wide scope and importance to the producers and consumers in both countries—the first such successful effort in over 70 years—culminated in November, 1935, following the return to power in Canada of the Liberal Party after a campaign in which lower trade barriers, particularly toward the United States, was a major issue.

Primarily, the arrangement provided for reciprocal duty reductions or assurances of continued favorable conditions of admission on broad ranges of distinctive export products of each, agricultural and industrial, for which the other country had been an important market in the past. In addition, the agreement was notable for the recognition by Canada, after many years of opposite practice, that American products should receive at least as favorable customs treatment as those from any other non-British areas, and for the assurance of substantial withdrawal or moderation of the elaborate administrative valuation system on imports under which many Canadian duties had during recent years been increased well beyond the nominal or statutory rates of duty, and often by unpredictable amounts.

Other Canadian Trade Agreements.—In addition to a supplementary agreement with France and a commercial convention with Poland, in the course of both of which Canada made reductions in the duties on selected products of interest to the other side, the trade agreements program of Canada was carried forward during the year by arrangements with Austria and five of the smaller Latin American countries, providing essentially for the exchange of most-favored-nation treatment. Action was also taken by Canada to assure the United Kingdom, Australia, New Zealand, and South Africa the benefit of the lowest duties that may be hereafter granted to any country. This strong rededication by Canada to most-favored-nation policy during the past year is noteworthy in view of the deviations from that traditional principle on the part of other countries, particularly in Europe.

The selective autonomous tariff changes made by Canada during 1935 were largely on the downward side. Exceptional was the 33 1/3 per cent surtax ordered on all Japanese products in July, following the Japanese application of a 50 per cent surtax against important Canadian products, because of the Canadian insistence upon levying exchange-dumping duties on Japanese products on the ground of extreme depreciation of the yen. A truce was worked out between Canada and Japan at the end of the year by which both sides canceled their surtaxes.

Australian Tariff Revisions.—The tariff action of the Australian government during 1935 was also outstanding. Giving effect to the policy of not exceeding reasonable protection, limited to those industries reasonably assured of success, and taking account of the burden upon consumers and users, the United Australian Party, governing in coalition with the Country Party, brought forward during the year two series of predominantly downward revisions from the high duties and surtaxes built up during the early years of the depression, affecting a considerable range of products. These changes were made only after studies by the Tariff Board and, where changes were made in both the general rates and the British preferential rates, the previous margin of advantage to Empire suppliers usually remained unchanged. Of interest for the future is the Australian plan for an intermediate schedule of import duties (somewhat below the present general duties) to be used for tariff bargaining purposes; at present it is inoperative pending the negotiation of trade agreements with foreign countries. There was relatively little change in the New Zealand tariffs during the year.

South African Triple Tariff.—In the Union of South Africa, the most striking development during 1935 was the establishment of the three-column tariff by the addition of a maximum scale of duties that may be applied to selected imports from non-treaty countries, apparently for the purpose of correcting especially unfavorable trade balances. Such maximum duties have already been proclaimed on a half dozen classes of goods when coming from five such countries, including the United States, the new duties being 5 to 10 per cent *ad valorem* above those applied to non-British countries generally. Action upon the report of the special commission that has been making a survey since 1934 of the tariff policy of the Union, especially as to its effect upon secondary industries and the cost of living, is expected to be one of the major problems before the Parliament in 1936. In accordance with the original plans, the subsidies paid on certain South African exports, principally agricultural products and raw materials, were reduced during the year by approximately one-third, with the expectation of a similar reduction in 1936, and their total abolition in 1937.

Irish Duties and Quotas.—In its budget for 1935-36, the Irish Free State further developed its growing tariff by new or increased duties on a considerable number of commodities, declared primarily for the purpose of increasing revenue. The import quotas of the preceding year were generally continued and similar restrictions established on additional products. Apparently in the effort to build up alternative markets on the Continent for Irish agricultural products, in place of the usual English market, which is still seriously curtailed, the Irish government appears to have been led into negotiations of the European type, providing for reciprocal quota undertakings with Belgium and Spain and for a fixed trade ratio with Germany. The partial moderation during 1935 of the tariff war of several years standing between the Irish Free State and the United Kingdom, providing larger purchases of Irish cattle in return for British coal, has already been described.

Empire Preference.—The year saw few important new developments in the quite comprehensive system of Empire preferences that had been built up during the recent period. Reports of dissatisfaction in various parts of the Empire with the operation of the Ottawa Agreements of 1932 were current during the year, especially with regard to the market opportunities in the home country for meats and other foods of the Empire and other origin. Difficult negotiations are reported in prospect for the reshaping of the Ottawa Agreements, most of which run to 1937, but with the possibility of earlier modification by consultation. The developments of the year in the major Dominions suggest some reaction from the tendency toward increased duties on the products of non-Empire countries, by means of which the Ottawa Agreements had been largely implemented.

Export Control of Raw Materials.—In the field of export controls of raw materials, the two major schemes now in operation by agreement among the principal producing territories, of crude rubber and of tin ore, both involve chiefly British Empire and Dutch colonial areas. The operations and experience of the two controls during 1935, however, have been quite different. The International Rubber Regulation Committee has during the year successively reduced the basic export quota of each territory by 5 per cent a quarter, down to 60 per cent for the fourth quarter, at which level it is to stay for the first six months of 1936, although the world market price for rubber has thus far been little affected. In tin, where a scarcity of supply had developed and prices had risen sharply, the basic export quotas were increased several times during 1935, standing now at 90 per cent, or double the quota a year ago.

LATIN AMERICA

"Correcting" the Trade Balance.—While not characteristic of the whole of Latin America, a striking development of the past year in a number of important countries in that area have been the efforts to "correct" the trade balance with those countries where their nationals have been buying more than they have been selling.

Multiple Tariff Systems.—The methods used have been several. Thus, Cuba, Haiti, Guatemala, Honduras, Ecuador, and, in a measure, Colombia adopted the practice initiated by El Salvador during the preceding year of establishing multiple tariffs, instead of the traditional single column of rates applicable to all countries. They have begun to apply these several scales of duties, or the previous rates plus varying surtaxes, to products from various non-treaty countries, according to the degree to which imports from those countries exceeded their purchases of national products. In order to secure the benefit of the minimum or even intermediate rates, instead of the much higher maximums, several European and other governments have entered into agreements with these Latin American countries, undertaking to purchase during the current year, say Cuban products, to the extent of at least 25 or 50 per cent of their sales in that market. In other cases, the Latin American government adopting such differential tariffs hastened to denounce certain most-favored-nation agreements with various important overseas countries, in order to regain freedom of action at the earliest date. Whether because of the state of the trade balance with the United States, or because of existing treaty obligations, in no case thus far have the higher scales of these multiple tariffs been applied to the products of the United States.

Differential Operation of Exchange Controls.—In a number of other countries much the same objective was sought through the control of foreign exchange. Notably Argentina, Uruguay, and, temporarily, Chile have attempted to regulate the volume of their trading with different countries through differential allocation of foreign exchange for the payment of purchases from different countries, or through differing readiness to make available such exchange at the "official" or lower rates. Promptness of settlement or the rates at which remittances could be obtained have been made to depend, in part, upon the relative necessity or dispensability of the particular product, but mainly upon the relative volume of exchange being created through recent or current purchases of the country's leading export products by the nationals of the other country.

Easement in Supply of Exchange.—Although on the part of certain governments there has been this tightening of exchange control selectively toward particular countries, as a whole, the past year has seen an appreciable easement in Latin America in the volume of exchange available for payment of imports and in the freedom of its disposal.* This has been made possible by the measurable recovery during the past year or so in the value of the exports of practically every major country of Latin America, accompanied in some cases by improvements also in the unit prices obtained for their staple export products, even though at times these have been artificially aided by governmental price guarantees or export subsidies. For instance, the year 1935 saw a significant rise in the value of purchases by the United States from practically all Latin American countries, and some recovery in the value and share of the imports of most of these countries that was supplied from the United States.

This easement in the availability of exchange has been in general true of Argentina, Uruguay, Brazil, Colombia and Ecuador, with the last two having lifted control entirely on payment for current imports as regards most countries. In the case of Brazil and Colombia, the relaxation of control was accompanied by a substantial depreciation in the external value of the currency, following closely the trend of world prices of coffee. In most of the Caribbean areas and middle America generally, there has been no exchange control, although in certain Central American countries there has recently been considerable delay in obtaining exchange.

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* It will be recalled that foreign exchange had been under control for several years in about half of the countries of Latin America, and that sheer shortage of exchange created by current exports has often been an overshadowing consideration in determining the amount of new foreign purchases that could be made or paid for, even in some of the areas where there was no official or centralized control of exchange.

Reaction to Trade Balancing Pressures.—The growing movement on the part of various of the Latin American countries for enforcing something like a balance in their trade relations with different overseas countries, through penalty duties, differential exchange allocations or rates, or the forcing of increased purchase undertakings, has the appearance of a defensive movement against the pressure which various countries of Europe, including the United Kingdom, have been exerting upon those countries from whom they happened to buy more than they sold, to grant them special market openings for their products or preferential treatment in the allocation of exchange for the payment of current purchases and the clearing up of debts. It appears also to be something of a reaction against the pressure applied recently upon a number of countries of Latin America by certain European governments, which have endeavored to short-circuit the normal triangular movements of trade, through which particularly the raw material and foodstuff producing areas of the world, notably those of the American continent, have normally been adjusting their international balances, finding their largest markets in one group of countries but buying their import requirements more from another group, with the credits created with the first group normally going to pay for their excess obligations to the second group.

Trade-Easing Agreements.—In the matter of import duties, which, in the countries of Latin America more than in Europe, constitute the prime regulators of imports, the year 1935 has seen a few revisions or successive series of changes on varying lists of commodities. The general tendency has been upward, although, in a number of countries, more selectively than in the past. In several countries there were downward changes to allow a larger flow of imports, especially in necessities of life and productive equipment for the gradually increasing number of industrial plants. To avoid an undue burden upon consumers and an increase in costs of living, there have been evidences in Mexico, Colombia, Ecuador and certain Central American countries of a closer scrutiny of the operation of protected industries and of local requests for additional tariff increases.

This more critical attitude toward local protectionism has figured also in connection with the trade agreement negotiations, in which the year has been an exceptionally active one for Latin America. Perhaps its most notable manifestation was in the satisfaction expressed by practically all the economic elements in Cuba over the operation of the reciprocal trade agreement with the United States brought into operation in September, 1934, which involved decided curtailments of the measure of protection to domestic industries stimulated or expanded during the period of high Cuban tariffs. It has been expressed also in connection with agreements entered into with the United States by Brazil, Colombia, and several of the smaller Caribbean areas, and in the eagerness of various other governments of Latin America for entering into similar negotiations.

Especially in view of the high duties, quotas and other restrictions which various European countries now impose on many of the staple food and raw material exports of the Latin American countries, upon which they so depend for their prosperity, many of the American republics have apparently come to feel that it warrants some sacrifice in the reduction of their duties in order to obtain agreements that will assure continued unrestricted access to important markets on favorable terms for certain of their products and improved conditions of admission for others, particularly when the general basis of the agreement is on liberal principles that promise further ultimate enlargement of their trade possibilities.

Attitude Toward Overseas Countries.—Quite in contrast has been the attitude of most Latin American countries toward those of Europe, most of whom have maintained, so far as conditions would allow, this distinctively restrictive policy in their trade arrangements with the Latin American Republics. On the one hand, the year has seen a further development and adoption by additional European countries of the practice earlier referred to of seeking special advantages from those countries of Latin America where they happen to buy more than they sell. Quite a number of countries, particularly of South America, have had to accept during 1935 arrangements involving on their part reductions in duties, purchase undertakings, or preferential allocation of exchange, in return for noncurtailment of their previous volume of sales in those European countries, or even upon assurance of restricted but definite minimum import quotas for their coffee, nitrates, meats, or other important exports. Perhaps the most striking development of this type, and one which has led to particular complaint from competitive suppliers in the United States and elsewhere, have been the so-called "ASKI" mark arrangements which Germany has worked out with a number of Latin American countries since 1934. These provide that the mark proceeds from the sale of coffee, nitrates or whatever the principal Latin American export product shall be available only for the purchase of an equivalent value of German goods, such special marks being usually available at a discount because of the lack of demand for German products to the full extent of the German purchases of Latin American products.

On the other hand, in those cases where the American countries had been buying from these particular overseas countries more than they had been selling, there was evidenced the tendency earlier referred to, to resort to the European practice of insisting on an increase in the volume of purchases which the overseas country would take or facilitate, under penalty of higher duties, less favorable exchange allocations, or other restrictions. These efforts on the part of certain Latin American countries to enforce, when they could, a closer balance of trade with their foreign suppliers were directed during the past year not only at European countries but also at Japan, whose exporters of cotton piece goods and other products had begun to ship considerable quantities since 1933, especially to the Caribbean and the North Coast, while hitherto buying Latin American staples in only slight amounts.

Alongside of these varying attitudes toward the United States and overseas countries, there has been some further development during the year of the tendency for the countries of South America to exchange with neighboring countries reciprocal free trade or substantial concessions on selected distinctive products of each other. The outstanding developments of this character during 1935 were the enlarged reciprocal agreements signed between Argentina and Brazil, Chile and Peru, and between Brazil and Uruguay. Curiously enough, one of these countries, which did not have extended to it the concessions exchanged by one of the other pairs, claimed discrimination and took retaliatory action.

Quotas and Government Monopolies.—Import quotas and licenses, which had rarely been resorted to by the countries of Latin America, were introduced during the past year on selected commodities in a number of these countries (Ecuador, Peru, Chile and Bolivia). However, the motives and purposes appear to have been various, and thus far no Latin American country has developed a comprehensive system of quantitative limitations as a regular means of controlling import trade, as is now common in Europe. Governmentally controlled organizations for the production or distribution of gasoline and other petroleum products have been put into operation during 1935 in an additional country (Chile), and a refinery for this purpose is under construction in another (Uruguay). The purpose, however, has been not the restriction upon the quantity of imports by private traders, so much as the protection of local consumers against excessive price, and the assurance of a sufficient supply under domestic control. It will be recalled that the governments of Argentina, Bolivia, Chile, Cuba, Ecuador and Uruguay had in earlier years taken steps to control the local distribution and prices of certain necessities and raw materials in the interest of consumers.

Subsidies and Other Export Aids.—To aid their producers and assist the sale of their products abroad, several of the countries of Latin America have during the past year paid or authorized bounties on staple products, including Venezuela on coffee, cacao, and livestock; Ecuador on new market openings; Peru on sugar; and Uruguay on wheat and flour, and, by preferential exchange, on wool and other animal products. The efforts on the part of the governments of Brazil and of Colombia to maintain profitable returns to their producers of coffee, in terms of the national currencies, through allowing the external value of the currency to depreciate, has been earlier noted. In several lesser instances, somewhat the same purpose was apparently sought through the abolition or suspension of the duties hitherto levied on the exportation of particular products, or by establishing systems and standards of export control to improve the quality and marketability of national products abroad.

PUBLIC REGULATION OF COMMODITY EXCHANGES

By Arthur Richmond Marsh

Member, New York Cotton Exchange

INCREASE IN FUTURES MARKETS

During the past two or three years, and especially during the past year, the number of commodity exchanges, or futures markets, devoted to organized trading in basic commodities, has steadily increased in the United States, indicating that American merchants and manufacturers dealing in such commodities find it more and more to their advantage to use these markets for hedging and other cognate purposes in the conduct of their business. The processes of distribution, price-making and the like in the various branches of trade concerned with commodities seem in fact to be increasingly guided by the interplay of commercial, financial and economic forces and opinion which centre in the commodity exchanges and produce resultant movements of prices significant of the existing and prospective demand and supply situation in each case. Hence in one commodity trade after another, often in the face of determined resistance on the part of dealers wedded to the older and allegedly freer system, technical methods adapted to systematic and public futures trading in the given commodity are worked out, a definite futures market or commodity exchange is organized, and the course of the business in the commodity, wherever it may be actually bought and sold, is more and more definitely and completely predicated upon transactions in future contracts made upon this commodity exchange. As a consequence, for a surprisingly long list of basic commodities, or raw materials required by American industries, operations on commodity exchanges are today determinative not only of the movement of prices but also to an important extent of the distribution of the commodities themselves through the channels of trade.

NEW DEAL POLICIES AND THE EXCHANGES

With this broadening of the field of influence of the commodity exchanges in the United States, and with their steadily increasing effect upon commodity prices, as well as trade practices, it would appear not unnatural that, at a time when regulation of business is the order of the day, the attention of legislators and of administrative officers of government should be more and more directed to these organizations with the object of making them instrumentalities for the carrying out of the political and economic doctrines favored by those in power. Surprisingly enough, this has not happened to any appreciable extent during the past year or, indeed, since the inception of the ''New Deal''. Political agitation against the leading commodity exchanges has, in fact, been notably quiescent throughout the entire period of the development of the typical ''New Deal'' policies and their attempted application in practice. No new legislation for the regulation of the country's commodity exchanges has been recommended to Congress by the administrative officers of the Government; and the legislators themselves have initiated and sought to enact into law virtually no new measures of control for these institutions.

It is not easy to discover a really satisfactory and adequate explanation for this comparative neglect of the great commodity futures markets by an Administration which has been particularly concerned with the financial and economic rehabilitation of the country's agricultural producers and has sought to achieve this end through the Agricultural Adjustment Administration with its elaborate program of production control, financial assistance to the farmers through fixed-price loans on their products, payments to them of cash differentials between market prices and theoretical ''parity prices'', processing taxes, and a wide variety of other expedients. Furthermore, ''speculation'' in commodities, which under modern conditions largely centres in the great commodity exchanges, has frequently been criticized with severity by the President and by his coadjutors in the Government as harmful in itself and detrimental to the best interests both of producers and of consumers, with the implication that it should be rigidly controlled by sharp restrictive regulation of the markets where it most commonly, or at least most effectively, manifests itself. Despite these considerations, however, the fact remains that the commodity exchanges have been very little interfered with by the Government during the past two years, nor has the freedom of merchants, manufacturers and traders making transactions on the exchanges in the regular course of their business operations been curtailed to any appreciable extent.

GOVERNMENT EMPHASIS ON SUPPLY CONDITIONS

Since conjecture only is possible, we may perhaps fairly assume that the real reason for the state of things just described is that the present National Administration has been primarily occupied with the vast and baffling problem of rectifying the demand and supply and price conditions for the country's own major agricultural products —wheat and the other grains, cotton, wool, dairy and other annual products, etc.,—and has deemed the activities of the commodity exchanges concerned with these products of secondary importance, at least for the time being, so long as these activities were not giving rise to disturbing and plan-thwarting price fluctuations. Naturally, the same considerations would apply with still more force to the commodity exchanges concerned with imported products— silk, rubber, cocoa, coffee, sugar, tin, etc.,—since our own productive classes are only indirectly and very moderately affected by what goes on in connection with the marketing of these imported products, while in general price movements in respect to them necessarily originate for the most part in the countries of their origin. It would appear, therefore, that the organization and operation of the vast administrative machinery necessitated by the program of production control undertaken by the Government since early in 1933 has led to a diversion of attention in governmental circles from the older marketing organs and their practices to the attempted regulation of the conditions of supply, the expectation being that with the supply properly in balance with the consumptive demand, prices would take care of themselves. It is along this line that governmental energies have of late been almost exclusively directed and as a consequence the once fashionable political scheme of applying pressure to the commodity exchanges for the purpose of bringing about desired price changes for the respective commodities has fallen into abeyance. Nor has there been any indication in the recent official pronouncements either of President Roosevelt or of other officers of the Government that they regard more complete public regulation of the commodity exchanges as needed in furtherance of their rehabilitation program for the country.

OPERATION OF THE GRAIN FUTURES ACT

Accordingly, governmental activities in connection with the commodity exchanges have during the past year been confined to a comparatively small number of disciplinary cases, in which it has been sought to punish individual traders upon this or that exchange charged with failure to obey prescriptions of existing law. Thus, one or two speculative traders in the grain markets have been proceeded against on the charge of having violated the requirement of the United States Grain Futures Act that firms or persons whose open commitments in grain future contracts exceed a specified quantity, and are thus likely to influence prices unduly, must report the same to the proper Government officer to the end that the Government may intervene, if necessary, to correct the resulting market disturbance. This statutory duty of disclosure of their market operations and position has been much resented by certain of the larger traders in grain and there is some reason for thinking that they have been inclined to honor it more in the breach than in the observance. Confident, moreover, that the statutory requirement of disclosure of their market position is in itself a violation of their constitutional rights the traders concerned have had recourse to the courts, from which in due course they hope to obtain decisions practically invalidating the entire United States Grain Futures Act or at least rendering it innocuous as a regulatory measure. What the issue of this litigation will be is still uncertain and no more can be said of it now than that its outcome will obviously have an important influence upon the future course of public commodity exchange regulation in the United States.

CONCLUSIONS

While, as has just been said, such regulation has received comparatively little governmental attention during the past year or two, its status today remaining practically what it was when the political movement in favor of it was at its height in the predepression years, it is perhaps too much to expect that no further political efforts in this direction will be made. It must be borne in mind in this connection that the pressure of Government for the stricter regulation of the security exchanges is now more aggressive than ever before and that the methods and practices of those exchanges are being subjected to the severest scrutiny and criticism to the end that the interests of the public at large may be safeguarded against the effects of self-interested operations on the part of none too scrupulous traders. There is little reason to expect any relaxation of governmental endeavor to prevent abuses on the securities exchanges through more and more rigid control both of the personnel of the exchanges themselves and of the character of the securities offered to the public thereon. With this in the background governmental acceptance of the commodity exchanges as they are should probably be regarded as temporary rather than permanent. A new period of violent speculation in commodities, such as many economists deem to be impending by reason of the country's plethora of gold, would almost certainly give rise to inordinate fluctuations of commodity prices, which in turn would revive political agitation for the control of prices through control of the exchanges. All this, however, lies in the future.

LIFE INSURANCE

By Wendell M. Strong

Associate Actuary, Mutual Life Insurance Company of New York

GENERAL

In many respects the year 1935 has been a repetition of the year 1934, with possibly an accentuation of the peculiarities of that year. Up to the Spring of 1933, the time of the banking moratorium and the moratorium on surrender values, there had been a continual drain on the cash of life insurance companies for loans and surrenders. After the termination of the moratorium the tendency was reversed, cash accumulated, and the difficulty of the companies was that of making investments. This was especially true in the year 1934 and even more so in the year 1935. An accompanying condition was the reversal in respect to policy loans. These had increased year after year until 1934, but in 1934 the tendency reversed and the amount of loans on policies decreased. This decrease has undoubtedly been accelerated in 1935 and when figures are available for the end of the year they will undoubtedly show an amount of policy loans less than at the beginning of the year.

The tendency to purchase annuities and policies having a large investment element, such as single premium policies, was very marked in 1934, and at least as much so in 1935. While this is a tribute to the confidence felt by the public in the life insurance companies, even though primarily due to difficulty of obtaining satisfactory investments, it has been embarrassing in accentuating investment problems which existed without it.

NEW BUSINESS

In 1934 there was an about face from the continual decline in amount of new insurance issued which had existed from 1929 to 1933, the total decline being about one-quarter of the amount written in 1929. The increase in 1934 over 1933 was small, only about four per cent, but its significance lay in the fact that it was a change from the downward to the upward grade. For 1935 the returns for 11 months from a large proportion of the companies show some increase over 1934, but so slight that all that can be said is that the total new business will not differ much from that of 1934.

NEW INSURANCE

(Association of Life Insurance Presidents)
(42 companies having 83% of insurance in force in all U. S. companies on Dec. 31, 1934)
(Dollars in millions. First eleven months of each year)

	1933	1934	Per cent Increase	1935	Per cent Increase
Ordinary Insurance	$4,669	$5,054	8.2	$5,110	1.1
Industrial Insurance	2,127	2,287	7.5	2,333	2.0
Group Insurance	302	426	41.2	591	38.7
Total Insurance	$7,097	$7,767	9.4	$8,034	3.4

* This table is only for the purpose of showing the tendency, so far as it is known, in 1935. It corresponds only roughly with results for all insurance in all companies in previous completed years.

ASSETS AND INSURANCE IN FORCE

The total insurance in force gained slightly in 1934. This gain, in contrast to the previous decrease, was due more to the fact that terminations, by surrender and lapse, had decreased very greatly than to the slight increase in new business written. In 1935 the same tendencies have prevailed, and it is probable that although new business has not increased appreciably the amount in force at the end of the year will show some increase over 1934.

In the matter of assets the situation is different. There has been a continuous increase, and a very considerable increase, in each year except 1933. In 1934 and 1935 this increase has been contributed to very largely by the amount paid for single premium policies and for annuities. To protect themselves the companies have placed limits on the amounts receivable, and some companies have withdrawn certain forms of policies, such as very short term endowments and certain other forms having a large investment element, and to meet the decreased interest rates annuity premiums have been increased by most companies.

AMOUNT OF INSURANCE—ASSETS—INCOME—DISBURSEMENTS

(Including Ordinary, Industrial and Group Business)
(*Insurance Year Book.* Dollars in millions)
All United States Companies

Year	Number of Companies	New Business	Amount in Force (End of Year)	Admitted Assets (End of Year)	Surplus* (End of Year)	Total Income	Total Disbursements
1934......	313	$14,280	$ 98,542	$21,844	$1,823	$4,786	$3,662
1933......	318	13,787	97,985	20,896	1,827	4,622	3,917
1932......	328	14,514	100,154	20,754	1,944	4,653	3,998
1931......	342	17,226	108,886	20,160	1,858	4,850	3,538
1930......	352	19,020	107,948	18,880	1,825	4,594	3,199
1929......	353	19,267	103,146	17,482	1,767	4,337	2,882

* Includes amount set apart for dividends to policyholders during following year.

ORDINARY INSURANCE

	1934	1933	1932	1931
Number of companies.....................	248	252	260	274
Amount terminated by death................	$ 685	$ 698	$ 723	$ 732
Amount terminated by surrender and lapse....	6,138	8,211	9,360	7,657
Total amount terminated...............	$ 8,868	$11,420	$12,303	$10,113

POLICY LOANS

Several causes have contributed to the decrease in policy loans, among which may be mentioned: (a) Whatever recovery has taken place; (b) The large number of terminations by surrender in several preceding years, particularly 1933. These were largely policies which, if they had been continued in force, would have carried loans; (c) When the loan was sufficiently large to make it worth while, ability to borrow from a bank at a lower interest rate than that provided for in the policy.

It may be noted that there has been considerable criticism of the rate of interest required on policy loans, the argument advanced being that the security is of the highest grade and the interest rate should be lower. Such criticism has lost sight of two essential facts: first, the average loan is so small that the expense in connection with it is a very important factor, and policy loans have to be made at the same interest rate, without regard to the size of the policy or of the loan; second, the right to borrow at the prescribed interest rate is a part of the contract, so that at a time when loans are either unobtainable from other sources, or obtainable only at prohibitive interest rates, policyholders can obtain loans from the companies at the rates provided for in the contracts.

SURRENDERS AND LOANS

(New York Insurance Report)
(Companies Reporting to the State of New York. Dollars in millions.)

Year	Number of Companies	Amount in Force (End of Year)	Amount of Policies Surrendered*	Amount of Policies Lapsed*	Paid for Surrendered Policies	Policy Loans (End of Year)
1934.....	53	$68,135	$2,624	$1,896	$ 924	$3,096
1933.....	53	68,177	3,624	2,551	1,177	3,191
1932.....	53	71,478	3,556	3,292	1,137	3,188
1931.....	52	74,636	2,264	2,934	718	2,798
1930.....	52	73,568	1,710	2,792	517	2,337

* Includes group insurance but not industrial.

INVESTMENTS

The investment situation of 1934 has repeated itself. The most difficult problem that the companies have had to face has been the investment of their available funds. These funds have come not only from the increase in assets that has taken place, which increase is much greater because of the large purchases of annuities, but to a larger extent than usual from the repayment of existing investments. This repayment has come not only from maturing investments but also from bonds being called, where the option to call existed, by companies whose credit was sufficiently good to permit them to place lower interest rate bonds. With few new bond issues and comparatively few good mortgages being offered, the situation has been most difficult. The result has been that the companies have been compelled to take larger amounts of Federal bonds, at a very low rate, than they would perhaps have wished to do, and also there is an accumulation of cash which would not have taken place had investment not been so difficult. On the other hand, some investments made in the past which were considered good have turned out to be the opposite. This is particularly true of railroad bonds, a few public utility bonds, and also some mortgages. The companies have suffered some losses, (which probably no company with a large amount of assets to invest could have entirely escaped) in the default of railroad bonds and also through having to foreclose mortgages. If history repeats itself, the foreclosed real estate will eventually prove no loss to the companies which managed their investments conservatively and wisely. The defaulted bonds, however, will probably in nearly all cases cause a loss. This, however, has been largely taken up from current earnings, so that while there will be some decrease in surplus on this account it will not be great in most companies.

The investment situation makes a difficult problem for the companies. By statute the minimum interest rate that can be used in their reserve calculations is 3%. This means that they must earn 3% on the reserve in order to maintain the required reserve from year to year, or else supply the funds from other sources. While the savings from other sources are such in all good companies that the failure to earn 3% on the reserve would not in any way threaten the solvency of the companies, the fact that it is now difficult to invest properly at 3% raises the question whether the state statutes ought not to be changed to permit the use of a lower interest rate in reserve calculations. This is irrespective of the question whether recovery in interest rates is to be expected. The reserve rate, since the reserve is a legal liability, should be the minimum rate that is possible in the future, and the states should permit the companies to be as conservative in this respect as their own judgment dictates.

ANNUITIES

In 1934 there was a call for annuities and other forms of investment policies that was tremendous as compared to any previous year. In 1935 this tendency has increased. Until

1934 annuities formed such an unimportant part of the business of most companies that they did not need to be given serious consideration, outside of determining the proper rates to be charged. The year 1934, with the flood of new money that came in from this source created a new problem with regard to annuities, and in 1935 this problem has been present in an even more acute form. As already stated, the companies have met this in various ways, by limitation of amounts that will be received, by decreases in commissions, by increases in premium rates, and in some cases by withdrawing certain forms of contract.

TAXATION

Taxation of premiums exists in every state, the rates varying somewhat but averaging well toward 2%. Thus the insured pays nearly 2% on his premium for the privilege of providing a fund to look out for his dependents after his death. In many states the rate of the tax has been increased during the year 1935. Thus the State of New York, by far the most populous, wealthiest, and most important from an insurance standpoint, has increased its premium tax from 1% to 1¾%.

The Federal Social Security Act bears heavily on insurance companies as on all corporations. In particular the provision for a tax for unemployment insurance is burdensome since the insurance companies are the sort of corporations not contributing to unemployment by discharging or temporarily laying off members of their staff.

LEGISLATION

The Social Security Act, in its provision for old-age pensions, is spoken of as likely to have a considerable effect on the business of life insurance companies. While there are differences of opinion, the writer does not believe that the effect of this Act on life insurance will be great. Most life insurance policies are for the protection of wife and children and are taken when the beneficiaries are far below the age of 60 years. Such insurance would probably not be affected by the Social Security Act. It might have a slight effect on the taking or continuance of policies where the beneficiaries are older. Even this is problematical, however, since the Social Security Act provides for a small subsistence income only, and an insured might wish insurance to provide for more than this. The Act, however, very likely will affect group annuities which are now issued by many companies to corporations to provide for old-age pensions to their employees.

CHANGES IN RESERVE BASIS

A tendency was noted a year ago for companies on a 3½% reserve basis to change to the 3% basis. In the year 1935 this has continued until now nearly all companies are on a 3% basis. A decrease in the interest rate assumed increases the net premium so that a change in the reserve rate from 3½% to 3% involves increases in premiums, and there have been many of these.

DIVIDENDS

While some companies will maintain their 1935 dividend scales for the year 1936, and a very few perhaps will increase the scale, there will be many decreases. This is contributed to in a large part by the reduction in the interest rate realized, since an important factor in the dividends for a large proportion of the policies is the excess rate earned on the reserve over the rate required to maintain the reserve. Since this excess rate is the excess over 3%, or in some cases over 3½%, the decrease in interest return cuts very seriously into this component of the dividend. It will affect most seriously policies of long duration, or other policies, such as single premium policies, having high reserves. The effect on dividends on term policies or life policies which have not been long in force will be very small.

In comparing the dividend actions of different companies it should be noted that during the past few years some companies have made very substantial dividend reductions and that in measuring the effect of the present dividend action of one company as compared with another the extent of such previous reductions must be taken into account.

PAYMENTS TO POLICYHOLDERS—INTEREST RATE

(Including Ordinary, Industrial, and Group Business)
(*Insurance Year Book.* Dollars in millions)

	ALL UNITED STATES COMPANIES:						100 COMPANIES
Year	Number of Companies	Premiums Received	Dividends Paid	Death Losses Paid	Surrenders and Lapses	Total Payments to Policyholders	Rate of Interest on Mean Invested Funds
1934......	313	$3,521	$438	$875	$1,078	$2,705	4.68
1933......	318	3,322	499	877	1,357	3,016	4.75
1932......	328	3,504	563	905	1,346	3,087	5.08
1931......	342	3,661	585	915	861	2,607	5.23
1930......	352	3,524	554	856	614	2,247	5.31
1929......	353	3,350	513	808	448	1,962	5.33

MORTALITY AND DISABILITY

The indications as to mortality are that it has been somewhat better than in the immediately preceding years. The disability experience still continues bad and the losses heavy. The fact that this business was discontinued some years ago means that the amount in force with this provision is decreasing and presumably losses under it will decrease from what they have been in some recent years.

GROUP INSURANCE

Group insurance, as was to be expected from its nature, it being usually insurance taken by large corporations on their employees for their benefit, showed a very great decline while the country was going downward financially and industrially. With the more encouraging situation in 1934 and 1935 it has shown a large percentage of increase each year over the preceding year. It, however, had a much greater recession to make up than ordinary insurance.

FRATERNAL AND INDUSTRIAL INSURANCE

Industrial insurance has shown up well throughout the depression, the retrogression in new business and in amount in force being comparatively slight. The year 1934 showed an increase in new business to the peak of all time and the year 1935 appears likely to top 1934. This does not mean,

INDUSTRIAL INSURANCE

ALL U. S. INDUSTRIAL COMPANIES
(*Insurance Year Book.* Dollars in millions)

Year	Number of Companies	Number of Policies (in millions)	New Business	Amount in force (End of Year)	Amount Terminated by Death	Amount Terminated by Surrender and Lapse	Total Amount Terminated
1934......	65	83	$4,885	$17,651	$154	$4,111	$4,428
1933......	66	82	4,673	17,154	149	4,515	4,797
1932......	68	83	4,793	17,265	154	5,450	5,811
1931......	68	88	4,847	18,274	159	4,412	4,781
1930......	69	89	4,860	18,287	158	4,101	4,490
1929......	68	89	3,738	17,902	...	....	....

however, that the amount in force is yet equal to the maximum reached in 1930, since the terminations under it, from its very nature, have been exceedingly high.

The following tables indicate a steady decline in the total amount of fraternal insurance in force. This is also true of the new business for each year since 1930, the year in which a peak of 1,287,000,000 was issued. The new business for the year 1934 was only approximately 40% of that for 1930.

FRATERNAL INSURANCE

All U. S. Fraternal Orders Showing Figures
(*Insurance Year Book.* Dollars in millions)

Year	Number of Orders	New Business	Amount in Force (End of Year)	Assets (End of Year)	Total Income	Total Disbursements	Net Amount Received from Members	Paid for Claims
1934 ...	262	$524	$6,300	$961	$198	$157	$150	$115
1933 ...	206	502	6,395	906	193	156	152	111
1932 ...	226	600	7,123	882	212	167	164	117
1931 ...	242	671	7,301	895	236	207	185	132
1930 ...	255	1,287	8,946	882	251	199	199	147
1929 ...	269	984	9,155	834	258	201	200	154

FIRE INSURANCE

By Edward R. Hardy

Secretary-Treasurer, Insurance Institute of America, Inc.

GENERAL

The business of insurance—and in a sense this applies to all forms of insurance, but more particularly to fire insurance—does not in a period of depression immediately feel the effects. In this depression and in the previous panics, as they were called, the fire insurance premiums began to show a decrease about a year after the beginning of the depression. When business commences to be more active, there is no immediate effect on the premium receipts of fire insurance. Usually the effect begins to be felt about a year after the upturn. The first of these facts is because fire insurance is written usually for not less than a year and, in the case of real property, for three or five years, and there is no immediate tendency to cut down the insurance with an immediate decrease in values. The second is due to the fact that the insurance carried is usually sufficient to take care of the property values, and, as increases are not rapid, it is not necessary to increase immediately the amount of insurance to meet a new condition. It is not a case of a sudden jump, such as occurs in stock market values, but rather of a slow increase in the value of property, personal and real, as affected by business developments.

PREMIUMS

The premium receipts of stock fire insurance companies are generally divided into the following classes: Fire, Ocean Marine, Motor Vehicle, Earthquake, Inland Marine, Tornado, Hail, Sprinkler Leakage, Riot, etc., Aircraft. In the year 1933 the total premiums from all these classes were $607,000,000, and for 1934, $643,000,000. In the year 1935 the increase was approximately five per cent over that of 1934, taking the business as a whole and for the whole country, which would make the volume approximately $647,000,000. Among the different classes the increase was fairly uniform. This volume of premiums comes primarily from the straight fire premiums, which in 1933 were $459,000,000 of the $607,000,000 total for all classes, and in 1934, $471,000,000 of the $643,000,000 total for all classes. For 1935 the amount will be approximately $475,000,000 of the $647,000,000 total for all classes. These aggregate statistics include ocean marine insurance, which is written by nearly all of the stock fire insurance companies and aggregates approximately $30,000,000 per year at the present time. The largest volume of premiums is $65,000,000 from motor vehicle insurance, followed by $35,000,000 from tornado and minor amounts for the other classes.

Inland marine, in a sense, so far as volume is concerned, is a companion to ocean marine insurance. It originally meant those forms of insurance which are written to cover on inland waters, as harbors, rivers, lakes. It has been extended now to include practically everything that is affected by a transportation feature, that is, property which is moving from place to place, and the volume has been developed so that it is just about the same to the ocean marine volume, or $30,000,000 for each of these branches.

Of the total premiums received by the stock companies the loss ratio over all in 1933 was 46.5, for 1934 it was 32.9 and was approximately the same for the year 1935. The loss ratio of fire alone for 1933 was 45.6, and for 1934, 43.1. There were no outstanding losses for the year 1935, so far as fire was concerned, but the tendency for the number of fires to increase was noticeable in December. The loss ratio as a whole, however, held steady. The losses noted above were those covered by insurance, and it is interesting to note that the total annual fire loss for recent years is greater than the insurance loss, because many properties are not insured or are uninsurable. Thus in 1933 the total annual fire loss was $271,000,000; in 1934, $236,000,000; in 1935, approximately $259,000,000.

INSURANCE RATES

Due to the fact that the loss ratio in the fire lines has been, comparatively speaking—but only in that sense—low, for the past three years, the effect has been to develop demands for reductions in the rate of insurance. In the United States the ever-present fear of a conflagration of large proportions has made it necessary to carry very substantial reserves in order to be prepared to meet such an emergency. For instance, in 1906, the time of the great conflagration in San Francisco, approximately 40 per cent of the assets of the fire insurance companies was required to meet the losses due to that one conflagration. In whatever country the business is conducted there has always been a recognition of the fact that a good body of reserves behind the outstanding policies is necessary for the safety of the insured and the success of the company. The insuring public is apt to forget conflagrations, and two or three years of a comfortable loss ratio in fire insurance leads to a demand for lower rates. It is the duty of the supervising officials to recognize the fact that competition might lead individual companies to ask permission to reduce their rates, but such reduction might carry them to a point which would not be safe for the business as a whole. These officials cannot and do not ignore the fact that a good body of reserves must be maintained at all times by the company. After all this is said, however, the tendency has been to reduce the rates of insurance in the fire branch, more so than in other lines written by the fire companies. The general feeling is that they should not for the present go any lower, if the low loss ratio does not lead to a tendency to increase the acquisition cost. The year 1936 will probably show some important developments in this respect.

VALUE OF THE SUPPLEMENTAL CONTRACT

When, in addition to the fire cover, protection is desired against other hazards, these are taken care of by issuing what is known as a supplemental contract. This extends the cover of the policy to include loss or damage caused by windstorm, cyclone, tornado, hail, explosion, riot, aircraft, self-propelled vehicles and smoke damage. Some of these hazards, such as those due to windstorm, cyclone and tornado, are more prevalent in certain parts of the country than in other parts, hence they are generally accepted as a necessary supplement to the fire cover. The same is true in regard to hail. Explosion, riot, aircraft, self-propelled vehicle and smoke damage may occur in any part of the country and in a sense there would be a broader demand for them. It has been found expedient—and the insureds are now so recognizing it—to include all of these hazards in the supplemental contract because, while in the East windstorms are not as prevalent as in the West, it does not follow that they do not occur, because in fact they do. It is a fairly safe statement that within a period of 10 years this supplemental contract will be found attached to nearly all policies of fire insurance. In many cases those who grant a mortgage will demand it and that alone would make a big market for it, but the insureds themselves are going to demand it. It has an economic value in another way, that is, where this contract is issued with the fire policy there is less clerical work than where this line and the supplemental contract are issued by a separate policy. The outlook is for a steady and permanent growth in the supplemental contract which may in time come to be extended.

THE FLOATING POLICY

Another development, but somewhat different in its nature, is that brought about by the Interstate Underwriters Board, the purpose of which is to take care of interests where the premium is of some value but where the property is located in different states or, as in the City of New York, in different boroughs. The policy issued is a form of floating policy,—that is the policy follows the property and lights, so to speak, whenever there is a fire.

MUTUAL FIRE INSURANCE

The best figures available are for the year 1934. During that year mutual fire insurance companies wrote premiums in excess of $134,000,000 and paid out losses of approximately $50,000,000. As of Dec. 31, 1934, they had over $35,000,000,000 insurance in force with assets of approximately $285,000,000, and surplus of $178,000,000. The figure given of insurance in force is probably much too low, according to the American Mutual Alliance which states that many companies failed to report their insurance in force for 1934 and estimates that the actual insurance in force by all mutual fire insurance companies would be very close to $40,000,000,000.

MARINE INSURANCE

By Douglas F. Cox

President, Appleton & Cox, Inc., New York

PREMIUMS WRITTEN AND LOSSES PAID

The latest information available at this time relates to business of 1934 as 1935 statistics will not be available until past midyear 1936. According to published figures the Ocean Marine premiums written in 1934 amounted to $33,187,000, being a considerable increase over the amount written in 1933 which was $29,813,000, or the amount written in 1932 which was $29,723,000. If we look back to 1929, however, we find the amount was $48,255,000. The losses paid in 1934 on Ocean Marine amounted to $20,240,000, or 60.98%, whereas those paid in the preceding year were $14,855,000 or 49.82%.

In Inland Marine, the premiums written in 1934 were $31,147,000, an increase over 1933 in which the figure was $28,139,000, although still far below the figures of 1929 and 1930. The loss ratio in this class, moreover, compared favorably with the preceding year, being 44.23% against 48.65% in 1933.

As to 1935, it is useless to attempt to foretell the volume of premium in advance of the publication of the figures, but there seems to be no doubt that losses, on Ocean Marine at least, were numerous and severe, especially in the early months of the year and again in the autumn months when West Indian hurricanes contributed largely to the total.

THE LONDON MARKET

Conditions in London, the most important marine insurance market, have been going from bad to worse, without leadership or cooperation among underwriters in respect to rates, except on war risks. Having had fairly successful results in some recent years, their present idea seems to be to get business at almost any rate. The result is that in the hull business, almost every fleet that comes up for renewal of its insurance is favored with a reduction in rate or valuation or both. Prominent London underwriters seem to be practically unanimous in condemning present practices and in prophesying disastrous results, but they seem unable to check the downward trend. As a considerable part of the insurance on the hulls of American vessels is and always has been placed in London and as it is impracticable and probably inadvisable to attempt to prevent American shipowners from getting the benefit of such conditions when they exist in London, the difficulties of the American underwriters are greatly increased by this abnormal competition.

AMERICAN MARINE INSURANCE SYNDICATES

Fortunately the insuring of hulls of ocean-going American vessels has been handled in this country, since 1920, principally by this organization whose membership includes most of the companies doing marine insurance. It furnishes a steadying influence on this market and is in a position to deal, as effectively as is possible, with the situation arising from the unfortunate conditions in London, thus forming a protection against possible similar demoralization here.

THE NUMBER OF MARINE INSURANCE COMPANIES

It is interesting to keep note of the number of companies which write marine business. Years ago, they were comparatively few. During the World War the demand for marine insurance arising from the inflated values of vessels and their cargoes at that time and the high rates paid induced many fire insurance companies to extend their operations into the marine field. After the war they continued in the marine business, thus naturally increasing the competition for the smaller volume of premium obtainable in times of peace. In the last few years, the number has been decreasing slightly, from 221 in 1931 to 200 in 1934. Of the 200 reporting marine premiums in 1934, 77 reported Inland only, 4 reported Ocean only and 119 both classes. Inland business, consisting largely, as it does, of ''Floater'' policies covering individuals against loss on personal property, such as jewelry, furs, objects of art, etc., policies covering merchandise transported by motor trucks, and similar covers, can be picked up by agents in any part of the country and consequently flows more naturally to fire companies through their far-flung network of agencies than does the Ocean business. Moreover, the rates and forms for the principal kinds of Inland policies are prescribed by the Inland Marine Underwriters Association, which fact brings the methods of writing that class more nearly into line with customary fire insurance methods than Ocean business in which the forms and rates are, generally speaking, uncontrolled by any authority and written in competition with the foreign markets.

WAR RISKS

Uppermost in the minds of marine underwriters during recent months has been the problem of arranging to provide shipowners and shippers of cargo with the necessary protection against the risks of war. The situation is different in the present instance from that in any previous outbreak of hostilities between nations because of the existence of the League of Nations and its decision to put into force (against Italy) the provisions of the Covenant relating to sanctions. If the hostilities were confined simply to war between Italy and Ethiopia, there would be no troublesome problem for the underwriters, but the application of sanctions involves possibilities of loss to shipowners and shippers in respect to which there are no precedents to guide underwriters as to the form of cover which reasonably should be provided or the rate of premium which should be charged reasonably to compensate them for providing the cover. Beyond and above all this in relative importance is the possibility, remote or immediate as individual judgment may incline, of the application of sanctions leading to a sudden outbreak of war between the European nations. Application of sanctions probably involves the turning of vessels away from their intended destinations to ports where cargoes may have to be discharged, warehoused and perhaps transshipped or sold, with the consequent expenses and with the added risks of congestion attendant upon the dislocation of the normal flow of commerce, not to mention the additional risk of stranding, collision, etc. not contemplated in the original venture. These risks, despite the uncertainty as to their seriousness arising from the fact that no one knows just how the application of sanctions will be carried out, could be insured at moderate rates, but such rates would be absurdly inadequate in case of war between European nations with its terrific possibilities of destruction, capture etc., yet underwriters are expected to formulate their covers and name their rates in advance, in the face of all these uncertainties.

CASUALTY AND MISCELLANEOUS INSURANCE

By A. Duncan Reid

President, Globe Indemnity Company

GENERAL

The casualty insurance business and the lines of business that are allied with it have profited during 1935 from the improvement in general business conditions that is reported from almost all parts of the country. For the first time in several years it appears that soundly managed companies may plan for expansion of their business with some hope of profit. There are, however, several dangerous but, fortunately, well defined fields which present even more serious difficulties than some of those that heretofore have been encountered.

AUTOMOBILE INSURANCE

The increased registration of automobiles offers an opportunity for expansion in that line with a reasonable expectation of satisfactory underwriting results. Federal legislation regulating the interstate trucking and bus operations may make it possible that those lines of business may hereafter be written by companies that heretofore have refused to entertain them.

Automobile insurance rates are always under discussion. These rates are composed of two parts: First, the part that is intended for the payment of losses, and, second, the part that is intended for the payment of the expense of operating the business. Complete justification of the rates charged for automobile public liability insurance by companies that are members of the National Bureau of Casualty and Surety Underwriters may be found in the results obtained by those companies during the five-year period 1930 to 1934, inclusive. During that period only three of the companies were able to keep their expenses within that part of the premium intended for the payment of expenses, for each of the five years. Five were able to do it for four years, two for three years, six for two years, and nine for one year only. Not one of the remainder, which was more than half of the total number of companies, could for a single year keep its expenses within the allowable proportion of the premiums it wrote.

During one year only of that period was the total of losses of all the companies within the proportion of the premiums they wrote that is allowed for losses. Not one of the companies was able to keep its losses within that proportion of the premiums for each of the five years. Six companies were able to do it for four years, 12 for three years, 10 for two years, and 14 for one year only. Not one of the remainder, which was more than one-third of the total number of companies, could for a single year keep its losses within the allowable proportion of the premiums it wrote.

ACCIDENT, BURGLARY AND MACHINERY INSURANCE

The standardization of the accident business has greatly improved the results in that line and the sale of accident insurance is increasing as incomes to be protected by accident policies increase.

There is an increased need for burglary insurance due to increased payrolls and to increased amounts of securities being handled.

Increased plant activities have caused a greater demand for boiler and machinery insurance.

FIDELITY AND SURETY BONDS

The greater proportion of the premiums for bonds comes from two classes of business, namely, contract bonds and fidelity bonds which include banker's and broker's blanket bonds. In the contract bond business there has been much uncertainty concerning labor and material costs. Most of the contract work done recently has been of specialized kinds and the amount of it has been beyond the capacity of contractors who were thoroughly experienced in the work, which has resulted in many contractors bidding for and being awarded contracts which their experience did not qualify them to perform. This has made it necessary for contract bond underwriters to require of contractors, for whom they signed bonds, a larger amount of net quick assets in proportion to the amount of work to be done than formerly was thought to be necessary. In the fidelity and blanket bond lines the underwriting results have been satisfactory and there is a steadily increasing amount of business being written.

OTHER PUBLIC LIABILITY INSURANCE

In the public liability insurance lines the owner's, landlord's, and tenant's form continues to be unprofitable due to well known causes but thus far no practical solution of that problem appears to be available. It is hoped that the present condition in that line will improve somewhat with further improvement in general business conditions.

WORKMEN'S COMPENSATION INSURANCE

The workmen's compensation problem is still with us and the seriousness of it has increased during 1935. Additional occupational disease laws have been enacted and the amount of the additional costs thereby imposed upon employers cannot accurately be estimated although it is known that it will be large. So far the rates approved by the rating authorities for the assumption of these additional costs by casualty insurance companies are believed to be wholly inadequate. The result is that in many states employers are placed in the predicament of being required by law to carry workmen's compensation insurance without being able to buy it except with great difficulty, and the casualty insurance companies on the other hand, which are trying to discharge the moral obligation to industry to provide it with insurance which it is required by law to carry, must inevitably suffer severe losses.

The problem has been further intensified in many states by legislative requirements that companies maintain in those states special deposits for the discharge of their workmen's compensation obligations. This dispersing and ear-marking of the assets of companies weakens them financially for their general purposes. If a company with $5,000,000 of capital funds is required to earmark $2,000,000 for special purposes, it remains then, for the general purposes of the casualty business, but a $3,000,000 company.

While increased industrial activity has resulted in the collection of a greater amount of workmen's compensation premiums, until the rate of loss on workmen's compensation business is reduced increased business in that line is detrimental rather than beneficial.

INVESTMENTS

In addition to the underwriting problems of the casualty business, which have been discussed, it has also investment problems to deal with. A casualty insurance company has its capital, surplus, loss reserves, and unearned premium reserves, and all of those funds are largely invested in securities. At the end of 1934 117 casualty companies of all classes doing business in New York State had capital funds (capital and surplus combined) amounting to $290,007,594 and total assets of $1,088,095,755. The capital funds are a little less than one-third of the total assets. Therefore, a decline of $1.00 in the value of securities would reduce the capital funds of the companies by $3.75. This illustrates how seriously fluctuations of the market value of securities affect casualty companies and emphasizes the importance of a sound investment policy and also emphasizes the importance of having a sufficiently large amount of capital funds in proportion to total assets so that market fluctuations will not deplete the capital and surplus which are the safeguards of the policyholders. That such a sound investment policy generally has been followed by casualty companies is proved by the fact that during the past five years they were able with few casualties to absorb both the unprecedented decline in the market value of their securities and the abnormal underwriting losses that were due to the times.

CHRONOLOGY OF FINANCIAL EVENTS, 1935

(From *The New York Times*, January 2, 1936)

JANUARY

Jan. 1—Year begins with interest-bearing U. S. public debt $27,944,037,950, against low post-war figure of $15,824,351,000 Sept. 30, 1930, and maximum until 1934 of $26,348,778,551 on Aug. 31, 1919.

Jan. 2—Stock and bond markets firm. Weekly steel output 41%, against 36½ previous week, 19 in September and 31 at opening of 1934.

Jan. 3—Million-share day in stocks; largest bond trading since August, 1934; both markets higher. New Congress assembles, at date fixed by Twentieth Amendment, ratified February, 1934.

Jan. 4—President's message to Congress conservative in tone, but foreshadows heavy public deficit for fiscal year 1936, due to public works and relief plans.

Jan. 7—Roosevelt's budget message asks for $8,520,413,609 for fiscal year 1936, of which $4,000,000,000 for relief. U. S. Supreme Court, 8 to 1, holds constitutionally invalid NRA provision for restricting oil production, on ground that Congress had delegated authority to President without specifying scope or procedure. Stocks rise in 1,286,000-share day; stock average highest since May 1, 1934, bond average since May 2, 1934.

Jan. 8—Argument opened before Supreme Court on 1933 repudiation, by Congress and President, of gold-contract in public and corporation obligations. Four cases presented; two concern railway bonds, one government bonds and one gold certificates. Attorney General Cummings declares that "not only are gold clauses inconsistent with the declared policy of the Congress, but they constitute a serious obstruction to the effective exercise by the Congress of its monetary and other powers.''

Jan. 9—Counsel of trustees for railway with gold-clause bonds (Iron Mountain-Missouri Pacific) argue that gold-payment contract was written into company's bonds because they could not obtain 30-year loan without it; that ''the gold clause is the very basis of the industrial progress of this country,'' and that Congress had no power in 1933 to pass ''a direct and immediate annulment of all these gold-contract clauses.'' Steel output higher at 44½%, against 31 years ago. Price for scrap steel highest since April, 1934.

Jan. 10—Argument before Supreme Court on cases arising from repudiation of gold-payment contract in U. S. bonds. Bondholder claims U. S. should now pay $16,900 on $10,000 bond of 1918. Chief Justice Hughes asks government counsel, ''Where do you find any power under the Constitution to alter that bond, or power of Congress to change that promise?'' Assistant Solicitor General argues that England and Germany did the same. Justice Van Devanter replies that their action ''has no controlling influence here.'' Stock average unchanged, bond average up ⅞ point, commodities little changed.

Jan. 11—Supreme Court gold-contract hearing continues. McLean argues that abrogation was for the general good; that ''government cannot bind itself in contracts in such a way as to limit its authority.'' Chief Justice puts the questions: ''Is it not of the very essence of sovereignty for a government to be able to contract? Is it not of the very essence of sovereignty to be able to bind a sovereign state in a contract to borrow money and, in so doing, to fix the conditions of repayment?'' McLean argues that government had ''created an obligation to pay in dollars.'' Justice Stone remarks, ''That is not what the bond says.''

Attorney-General Cummings then declares that in 1933 ''the government acted as a matter of Supreme necessity''; argues that ''the decision this court will render will have consequences so intimately involving the lives of our citizens that it is difficult to paint the picture,'' and makes almost unprecedented request for court to hear government counsel again. In Wall Street, stock average declines 2⅛ points, bond average ¼. United States bonds of issue prior to 1933, bearing ''gold contract clause,'' advance ¼ to ¾ point, other issues decline. Wheat down 2⅛c, cotton ⅛c.

Jan. 12—Rise of gold-contract United States bonds continues; Liberty 3½s up ⅞ point. Wheat prices steadier; stocks average down ⅞ point, bonds ¼.

Jan. 15—Speculative reaction in all markets, based on conjecture over Supreme Court's probable gold-contract decision. Average price of stocks declined 2¼ points, recovering ½. Domestic bond average down ½ point, but all United States government bonds recover. Foreign bond average declined about 1-3 point for day, making 1⅝ since Jan. 9.

On exchange market, dollar rose against all foreign currencies, premium over parity with gold franc (which at 6.45c touched lowest since dollar devaluation) being 2¾%. Sterling declined 2c to $4.83½, lowest since Nov. 4, 1933, but recovered to $4.86¾. Wheat declined 3⅛c to lowest since Nov. 1, 1934; corn 4c, oats 2⅝, rye 4½.

Jan. 16—All markets reverse previous day's movement. Wheat recovers 1¾c, corn 1⅜c. Stock average rise 1 point, dollar declines 1⅜c in exchange market. Steel output up sharply to 49%, against 41 at end of December, 19 in September and 33 same week in 1934.

Jan. 19—Week's gold engagements abroad $55,000,000, of which $36,500,000 from England.

Jan. 22—Large engagements of gold

in Europe for import continue. Total engagements abroad since movement began on Nov. 5, 1934, $309,000,000.

Jan. 23—Eleven issues of United States government bonds reach highest price of their history. Steel output up to 51½%, against 41 at years beginning and 32 at this date in 1934. Sales of passenger motor-cars reported double those of January, 1934.

Jan. 29—Commerce Department reported merchandise exports for 1934 $458,420,000 above 1933, imports higher by $205,490,000, excess of exports up $252,930,000. Year's gold imports $1,186,671,000, or $712,002,000 old dollar valuation, which would exceed the gold import of any previous year: 1921 coming next with $691,243,000. Silver import in 1934, $102,725,000, much the largest in our history, comparing with $60,225,000 in 1933 and $19,650,000 in 1932.

Jan. 30—Steel output higher at 56% of capacity, against 35 at same date in 1934 and high point of 61 on June 13, 1934.

FEBRUARY

Feb. 1.—Wall Street confident Supreme Court will announce "gold-clause decision" on Monday, Feb. 4. Vague rumor circulated that, in view of that possibility, Stock Exchange may be officially closed during the whole of that day.

Feb. 2.—Washington dispatches after close of Saturday business state that the Chief Justice, "in order to avoid unnecessary crowding of the court room on Monday, directs the clerk to announce that the court is not ready as yet to announce a decision in the gold-clause cases, and hence there will be no announcement on that day."

Feb. 4.—Stock market declines ¾ point, recovers ¼; day's business in stocks 345,000 shares, lowest full-day trading since Sept. 4, 1934. Smallest of 1934 was 274,500 shares on Aug. 20, which was also smallest five-hour day since July 3, 1922.

Feb. 6.—Outline of Senate banking bill published; would abolish specified collateral against Reserve notes and make Reserve banks' open-market transactions wholly subservient to edicts of an "open-market committee" controlled by administration. Steel output rises to 56½ per cent, highest of season; production at Detroit 100 per cent of capacity.

Feb. 7.—Member banks of Federal Reserve system reports reserves of $4,633,000,000, double legal requirement of $2,300,000,000.

Feb. 9.—Saturday. Positive prediction by Wall Street of a Monday decision on the "gold clause," followed by another announcement from the court that there will be no decision Monday.

Feb. 11.—Stock market lower. Secretary Morgenthau announces, evidently with view to the impending court decision, that stabilization fund is being used and that Treasury is "prepared to manage the external value of the dollar as long as necessary."

Feb. 12.—Lincoln's Birthday. Curious obsession at Washington that gold decision would be rendered on the holiday. Treasury even asks for closer telephone connection with court room. No decision.

Feb. 13.—Steel output down from 56½ per cent to 53½; first decline since fall from 24 to 23½, in second week of October. Iron Age remarks, however, that "early resumption of active demand is expected."

Feb. 14.—Five U. S. Government obligations reach high-record prices.

Feb. 16.—Saturday. No announcement made by Supreme Court that gold decision will not be rendered Monday; hence general expectation of the decision for Feb. 18.

Feb. 18—Supreme Court decides (1) that, so far as United States Government bonds were affected, Congress exceeded its constitutional powers in the gold-payment-repudiation act of 1933, but that no recovery by bondholders was possible without assent of Congress; (2)

that Congress acted within its powers in invalidating private gold-payment contracts; (3) that plaintiff in suit to recover for gold-payment repudiation on gold certificates had not proved damage. Justices Hughes, Brandeis, Roberts, Stone and Cardozo concurred. Minority opinion, concurred in by McReynolds, Butler, Sutherland and Vandevanter, held that all gold-payment contracts were enforceable.

Decision rendered early in the day. Stock average rose 3⅞ points and reacted 1⅜ points, on largest trading (1,911,000 shares) since July 27, 1934. Gold-clause United States bonds declined ¼, non-gold issues rose ⅛ to ½. Company bond average rose ¼. Grain trading suspended. All foreign exchanges rose; dollar's gold valuation on Exchange fell from 101.1 to 99.75.

Feb. 19—All of previous day's financial movements reversed. Stock average down 1¼ points, trading 1,103,000 shares. All of United States bonds advanced, some ¼ to ⅜ point. High-record prices for fifteen issues mainly those without gold clause. All foreign exchanges declined; dollar's gold valuation on Exchange rose to 100.2.

Feb. 20—Steel output 50½ per cent against 53½ preceding week, 56½ Feb. 6, and 44½ same date in 1934.

Feb. 21—Jesse Jones, RFC chairman, states to Traffic Club that railways applying for loans "must be prepared to prove their case in point of management, competitive conditions and necessary service." Also hints at possible necessity for reduction of principal or interest rate on existing fixed charges.

Feb. 22—London price of gold in British currency, at 143s 6d, Oct. 11, 1934 British Board of Trade reports deficit of £1,000,000 in England's foreign trade balance for 1934, against £2,000,000 surplus 1933, £56,000,000 deficit 1932 and £104,000,000 deficit 1931. Visible debits 1934, £32,000,000 above 1933, invisible credits higher by £29,000,000.

Feb. 23—London price of gold 143s 11d.

Feb. 26—Stocks and bonds decline under heavy selling. Stock average down 1 point, bond average ⅝. Some railway stocks and bonds fall 3 and 5 points.

Feb. 27—Markets recover; stock average up ¼ point, bonds ⅛. Steel output declines to 48½ per cent against 47 a year ago and 56½, high of 1934 to date.

Feb. 28—Gold bullion at London rises 1½ pence per ounce to new high record of 144s 1d. Sterling at Paris touches low record at 73 francs, depreciation of 41¼ per cent from gold parity.

MARCH

March 1—Sterling's gold value falls to 72.83 francs; gold bullion at London up 1 shilling to high record of 145s 1d.

March 2—Pound sterling down to 71.77 francs; London's gold market 1s 9½d higher at 146s 10½d.

March 4—Gold at London up 11½d to 148s 10d, high mark. Pound sterling falls to 70.68 francs, low mark, and 43⅛ per cent below gold parity, but recovers to 71.37. Sterling at New York falls to $4.73½, low level since Oct. 30, 1933, and recovers to $4.77¾. Treasury offers for $1,850,000,000 called Fourth Liberty 4¼s equivalent sum in 2⅞ per cent bonds of 1955-60; for $528,000,000 maturing 2½ per cent Treasury notes new issue of notes at 1⅝ per cent to mature 1940.

March 5—Gold at London falls 11½d to 147s 10½d. Sterling's gold valuation rises to 71½ francs. Sterling at New York rises to $4.78¼ but falls back to $4.75½.

March 6—Premier Flandin of France denies to Deputies that French Government "has any intention of renouncing its policy of stability and defense of the franc." Wildly speculative movements in sterling on chance remark of Roosevelt that higher prices are desirable. New York price falls 3⅝ cents, rises 6¼, then falls 3¾. Gold bullion at

London up 1s 5½d to 149s 4d, high record. Sterling at Paris falls to 70.75, recovers to 71.46. Steel production rate unchanged at 48½ per cent. Country-wide operations, year to date, 50.3 per cent, against 38.2 same period of 1934.

March 7—London price of gold down 6d to 148s. 10d. Sterling rises 3⅜ cents at New York. Neville Chamberlain declares to Parliament that no steps would be taken to put back England onto gold until conditions are "so favorable that it will be pretty certain we shall remain there." Denies that British Exchange Equalization Fund has been "deliberately pushing sterling downhill." Premier Theunis of Belgium declares that "we intend to maintain the franc."

March 8—Issue of $43,000,000 refunding bonds at 3¾ per cent, to replace outstanding 5 per cents, announced by Swift & Co. Chairman of United States Securities Commission quoted as saying the "log jam" in the market for new securities is now about to be broken.

March 10—Chairman Sarasin of the Bank of Switzerland declares, regarding the gold standard, that "it is impossible for Switzerland to follow a monetary policy different from that which the bank has followed."

March 11—Treasury announces that pre-war United States bonds pledged against national bank circulation are called for redemption; which, with termination in July of "circulation privilege" granted two years ago to certain post-war United States bonds, will extinguish the $867,000,000 outstanding national bank notes. Treasury to effect redemption through using $614,000,000 of devaluation "gold profit," that being the excess over the $2,000,000,000 appropriated to equalization fund. Bank currency to be replaced with Federal Reserve notes. Cotton market falls nearly $10 per bale, or 15½ per cent, closing at net loss of $5 @ $6. Sudden decline ascribed to blocking of market by government experiments.

March 13—Steel output declines from 48½ to 47½.

March 14—Treasury announces call for conversion or redemption of $1,933,209,950 1st Liberty 3½ per cents. Bank of France reports gain of 424,000,000 francs gold in week, equivalent to $16,600,000, old dollar valuation.

March 18—Spot cotton falls $2.75 per bale, to lowest price since January, 1934. Hitler's announcement of German army conscription, contrary to treaty, causes decline of 2¼ @ 2½ points in German Government's dollar bonds.

March 19—Theunis Ministry in Belgium resigns; question of gold devaluation urgent.

March 20—Steel output declines from 47½ to 47; against 48½ year ago.

March 22—House of Representatives votes, 318 to 90, for $2,000,000,000 paper currency inflation to pay bonus for cash payment. House adopts amended bonus-inflation bill by 318 to 90.

March 27—Steel output down further to 46½.

March 28—Belgian Government closes Brussels Stock Exchange, Thursday to Monday inclusive, suspending trade in foreign exchange. Devaluation of currency's gold ratio by 25 per cent expected, but not announced. New York price for belga declines nearly 8 per cent; quotation 13 per cent below present parity. Bank of Belgium's loss of gold $64,000,000 in three last weeks of March, making $115,000,000 thus far in 1935.

March 30—Belgian Parliament grants Ministry full powers for devaluing currency up to 30 per cent; also for introducing program of State intervention in industry. Premier declares for adherence to gold standard; urges international conference for stabilization. Commerce commission, voting 5 to 4, denies 10 per cent rise in freight rates as applied for by railways, but authorizes "emergency addition" to certain rates until June 30, 1936.

March 31—Belga officially devalued 28 per cent, releasing 880,000,000 belgas gold, or about $150,000,000.

APRIL

April 1.—Belga declines at N. Y. from 18.80 cents to 16.96. New dollar parity 16.95, compared with old parity 23.54.

April 3.—Steel output rises ½ to 47 per cent; first rise since first week of February, follows continuous decline from 56½.

April 4.—Dutch bank rate advanced from 2½ per cent to 3½, N. Y. exchange on Amsterdam lower.

April 9.—Dutch bank rate advanced from 3½ per cent to 4½; bank reports loss of 105,000,000 florins for week from gold reserve of 779,552,000.

April 10.—President raises Government price for newly mined silver to 71.11 cents per ounce, through reducing "seigniorage" from 50 per cent to 45. N. Y. open-market price for silver rises 1⅛ cents to 64⅛. Steel output declines from 47 per cent to 46.

April 11.—N. Y. silver market rises 1⅝ cents to 65¾. Bank of France reports loss for week of 649,000,000 francs gold, or $25,400,000, old dollar valuation. Ratio to liabilities left at 80.33 per cent.

April 12.—Unfavorable Winter wheat report sends May wheat at Chicago up 3⅝ cents to $1.00½; first dollar quotation since Jan. 11 and 14 cents above this date in 1934.

April 13.—Wheat rises to $1.02.

April 15.—Treasury calls for redemption Oct. 15 $1,250,000,000 remaining Fourth 4¼s; last of war loans outstanding. Call money rates N. Y. Stock Exchange fell to ½ of 1 per cent, not matched since brief periods in 1904 and 1894. Time loans one-half of 1 per cent.

April 17.—Stock Exchange call-money rate falls to one-quarter of 1 per cent, lowest on record; 90-day secured time loans to same rate. Steel production rises to 46½ per cent.

April 18—Reserve system's ratio of reserve 72¾ per cent, highest since Sept. 23, 1931. Member banks' surplus reserves estimated $2,050,000,000, as against a recent $1,800,000,000.

April 21—Treasury offers to exchange for $1,933,000,000 First Liberty 3½s, 4s and 4¼s, called for June 15, either 2⅞ per cent 25-year bonds or 1⅝ per cent 5-year Treasury notes.

April 23—Nine United States Government loans reached high price of their history. Silver bullion rises 2¼ cents to 69⅞ cents per ounce.

April 24—President raises price of newly mined domestic silver to 77.5757 cents per ounce, superseding price of 77.11 fixed April 10, which was preceded by arbitrary price of 64½ cents on Dec. 21, 1933. New York open-market price for silver rises 1¾ cents to 71⅝ cents per ounce. London price, 32 13/16 pence, highest since October, 1925. Steel output 47 per cent; second advance in fortnight.

April 25—Silver on New York market rises violently to 77 cents; London price, 34⅞ cents, highest since October, 1924. Dollar at Hongkong, 61.94 cents, against 52.59 week before and 36.94 year ago. Sharp rise in stocks, day's trading 1,693,000 shares, largest since Feb. 18. Bond average rises to month's highest.

April 26—Silver rises to 81 cents on New York market.

April 27—New York silver market falls 4¼ cents to 76¾.

April 30—United States Steel reports for March quarter $12,428,449 profit from operations, against $6,578,731 profit in 1934. Current profit largest since 1931, except for June quarter, 1934. New York State sells $40,000,000 ten months' notes at three-eighths of 1 per cent; lowest in State's history for that maturity.

MAY

May 1—Chamber of Commerce of United States adopts resolutions calling for postponement of administration's banking, labor, and holding company proposals. Silver's price falls 2⅛d per ounce at London, 3¾c at New York. Swiss bank rate advanced from 2 per cent to 2½.

May 7—Senate passes Patman Soldiers' Bonus Bill, 55 to 33, after rejecting substitutes. Presidential veto considered certain. Vote for bill fell short of two-thirds required to override veto. Stock and bond markets irregular.

May 8—Stock market averages rise 2⅛ points, on business of 1,394,000 shares. Steel output declines from 46 per cent to 45½.

May 9—Average price stocks at 89.80 passes for first time year's previous highest, 89.38 Feb. 18. Compares with 77.92 March 18.

May 10—Stocks rise again, transactions 1,654,000 shares, third largest of 1935 to date.

May 13—Secretary Morgenthau, in broadcast speech, declares United States "not unwilling to stabilize," and "will not be an obstacle" to efforts at "foreign exchange stabilization," but that other nations "must take the leadership."

May 15—Steel output down from 45½ per cent to 44½; prices for steel scrap tend upward.

May 16—Stocks rise on trading of 2,421,000 shares, largest since July 26, 1934. "Averages," at 92.79, highest since April 26, 1934. Belgian bank rate reduced from 2½ per cent to 2. Chancellor of British Exchequer admits in London speech that "stabilization is one of our ultimate objectives," and that "we shall continue to watch the situation with a view to taking action at any time that it seems to us the action is likely to bring about useful results."

May 22—Patman soldier bonus-inflation bill vetoed by President in speech to Congress. House votes 322 to 98 to override veto. Stock market advances fractionally. Steel production down to 43 per cent; compares with 58 same week in 1934.

May 23—Senate upholds Patman bill veto; voting 54 to override veto, 40 against, or 9 short of two-thirds majority. French bank rate advanced from 2½ per cent to 3.

May 25—French bank rate raised from 3 per cent to 4, on heavy gold outflow. Rate highest since January, 1928; had been reduced in 1927 from 6½ per cent to 4.

May 26—Treasury offers $100,000,000 fifteen-year United States 3 per cents to highest bidder, not under par.

May 27—Supreme Court unanimously declares unconstitutional the "code-making" provisions of the NRA Act, especially their delegation of power to the President and the applying of them to commerce within a State. Court by similar vote declared unconstitutional the Frazier-Lemke law for a five-year moratorium on farmers' debts; also the President's removal of a Federal Trade Commissioner for other reasons than inefficiency or neglect of duty. Decisions well received by the country at large, but Congress in great confusion.

May 28—Stocks decline on Supreme Court decision; averages rise 1 point, fall 3¼, recover ½. Bond average hardly changed. Wheat falls 1⅛ cents, recovering ⅝. Corn declines 1⅛ cents, rises 2⅛, falls ⅝. Cotton down $1 to $1.50 per bale. Bank of France rate raised from 4 per cent to 6, highest since Feb. 2, 1927, but below highest of 1926, which was 7½ per cent.

May 29—Steel output ½ per cent lower at 42½.

May 30—Flandin Ministry in France defeated by 353 to 202 vote in Deputies. Gold crisis becomes acute; Bank of France reports week's loss of gold 3,166,000,000 francs, equivalent to $124,000,000, old dollar valuation. Bids for United States Treasury's $100,000,000 offering of thirteen-year 3 per cents, $270,077,000; accepted, $98,799,000, all bidding above 3 per cent premium.

May 31—Dutch bank raises discount rate from 4 per cent to 5.

JUNE

June 1—Bouisson ministry successfully formed in France, opposes devaluation. Paris Exchange at New York rises from 6.58 cents per franc to 6.61¼. French 7½ per cent dollar bonds advance 12 points, having fallen 15½ in preceding five days. New York stock average down 6⅛ points from morning after Supreme Court decision.

June 2—Swiss referendum rejects proposal indicating devaluation by popular vote of 566,242 to 424,878.

June 3—France exchange rises to 6.63⅛ cents at New York, nearly at par. Swiss franc advances 32.35 cents to 32.70, or above par.

June 4—Bouisson ministry in France receives Deputies' vote of confidence 390 to 192, then is voted out, 264-262, on question of powers to be conferred. Franc falls late in day from 6.63¼ cents to 6.58⅛, below gold point. Stock averages up to 91.10, or 3½ points above June 1 lowest; President Roosevelt, after impulsive talk of constitutional amendment to overcome NRA decision, decides to remodel and retain NRA provisions, where possible.

June 5—Franc steady at New York; French 7½ per cent dollar bonds down 7½ points. Paris Bourse calm; stocks up at New York, making gain of 4¾ points from low average after NRA decision. Steel output 41½ per cent, against 42½.

June 6—Bank of France reports loss of gold, in week ending May 30, of 4,817,000,000 francs, or $188,800,000, old dollar valuation. Existing gold holdings smallest since Feb. 4, 1932; but ratio gold to circulation and deposits still 73.35 per cent against 35 per cent legal minimum.

June 8—Pierre Laval forms French ministry, with emergency powers to handle deficit; Deputies vote confidence, 324 to 160. Franc recovers sharply, gold withdrawals from bank cease.

June 11—Senate passes, 56 to 32, Wheeler-Rayburn bill eliminating by 1942 all ''unnecessary'' utility holding companies. Amendment to substitute ''regulation'' for ''dissolution'' defeated by only one vote. Stocks higher, averages show that 6-point loss since NRA decision had been entirely recovered.

June 12—Steel output declines from 41½ per cent to 39½; lowest since December; comparing with 56½ in February and with 61 per cent at this date in 1934, after rise from 31 in January.

June 14—Surplus reserves of member banks reach high record of $2,400,000,000.

June 16—Governor Tannery of French bank, speaking to European central bank governors at Basle, states French purpose of resisting devaluation. Expresses hope for ''restoration of world economic equilibrium by stabilization of moneys and resumption of normal commercial relations,'' and pays tribute to help of Secretary Morgenthau in supporting the franc during recent crisis and thereby keeping French market supplied with dollar exchange.

June 19—President Roosevelt proposes to Congress (1) Inheritance and gift taxes on all amounts in excess of $10,000,000 received by any one legatee, this ''in addition to present estate taxes''; (2) Increased tax rate on very large personal incomes; (3) Graduated income tax on net corporation income, running 10¾ to 16¾ per cent, instead of present flat rate of 13¾ per cent. Steel output reduced from 39½ per cent to 38, comparing with 60 in this week of 1934 and 50 in 1933. Stock market averages fall 1¾ points.

June 20—Bank of France reports gain of 28,000,000 francs gold for week; first rise of any week since April 4; decrease during interval 11,910,000,000 francs or $466,000,000, old dollar valuation. Bank's official discount rate reduced 6 per cent to 5.

June 22—Stock market averages pass 1934 highest, rising to highest point reached on any day since Nov. 13, 1931.

June 24—Roosevelt demands immediate action on his tax proposals despite angry revolt in both House and Senate. Silver falls 1¾ cents per ounce, selling 9¾ cents below April highest.

June 25—Stock market averages decline 2 points; silver down ¾ cent further.

June 26—Dutch bank rate reduced from 5 per cent to 4. Steel output unchanged at 38. Angry recrimination between White House and Congress regarding President's insistence on immediate passage of drastic tax proposals. United States Government consents to pay Panama annuity in gold, as required by Canal treaty. Washington had for two years insisted on paying in the depreciated dollar; Panama had refused to accept the tender.

June 29—Angry struggle between House and President over Roosevelt's demand for "death sentence" for holding companies in Utilities bill.

JULY

July 1—In committee of the whole, House voted 216 to 146 against "death-sentence policy" in Wheeler-Rayburn Utilities Holding Company Bill, substituting regulatory supervision by Security and Exchange Commission.

July 2—On roll-call, House defeated "death-sentence" utilities clause by 258 to 147. Charges of undue influence both by utility lobby and by lobby for the Executive cause appointment of committee of inquiry. Stock averages rise ⅞ point and fall back 1⅛.

July 3—Due to holiday-week suspension, steel production falls from 38 per cent to 32, lowest since first week of December, 1934. In same week of 1934 decreased 48 per cent to 21.

July 4—French bank rate reduced from 5 per cent to 4, against 6 June 30. Bank reports 247,000,000 gold gained for week, largest increase since first week in March.

July 8—Rise in stocks resumed. Silver falls to 68¼ cents, lowest since April 22, comparing with 81 April 26.

July 9—Stock "averages" at highest point of year to date; previous maximum June 24.

July 10—Steel output rises to 36½ per cent, against 27 same date in 1934 and 59 in 1933.

July 11—Wheat prices fall 3 cents, then rise 2 cents, government crop estimates on grain harvests having exceeded private forecasts. Reserve System's report indicates member banks' reserves at new high level of $5,052,000,000.

July 17—Treasury's offer of $100,000,000 in 2⅞ per cent bonds of 1955-60 covered five times over. Accepted bids average 101 19-32. Steel output rises sharply to 40½ per cent.

July 18—H. R. adopts, 258 to 88, administration's bill outlawing further suits against government for abrogation of gold clause in contracts.

July 24—Steel output rises again to 43½ per cent.

July 26—Senate passes Banking Bill, greatly modified, under Senator Glass's leadership, from original Eccles draft.

July 31—Strong movement in Congress to adjourn Aug. 10 defeated by administration forces. Steel output rises to 46 per cent; was 26 per cent same date in 1934.

AUGUST

Aug. 1—H. R. defeats motion to concur with Senate Utility Bill containing "death sentence" for holding companies; vote 210 to 158.

Aug. 5—Administration's tax-the-wealthy bill passes House, 282 to 96.

Aug. 7—Special Congressional election in a previously Democratic district of Rhode Island gives 12,979 plurality to Republican candidate, who had denounced the New Deal policies. In November, 1934, Democrats carried district by 21,431 plurality. Steel output rises further to 47 per cent.

Aug. 8—Senate, 53 to 24, approves administration bill barring gold-contract suits. Cotton down $2 per bale on high crop estimate.

Aug. 12—Advance in stocks continues; 2,426,000 shares sold, largest since Austrian crisis of July 26, 1934.

Aug. 14—Steel output rises to 49 per

cent, highest since February and comparing with 22 at middle of August, 1934.

Aug. 15—Senate passes 57 to 22, administration's tax measure, commonly known as ''soak-the-rich bill.'' Stocks advance; transactions 1,949,000 shares.

Aug. 17—Stock market average rises to 103.76, highest since Nov. 9, 1931; compares with 77.92 on March 18, lowest of 1935.

Aug. 19—Banking Bill, drastically changed on lines of conservatism from original administration draft, passes both houses. Guffey Coal Trade Regulation Bill, whose constitutionality was doubted by experts, passes House of Representatives by 194 to 168. Vote sectional, 93 Democrats voting against it.

Aug. 21—Steel output 50½ per cent, against 49 per cent week before, 21 per cent same date 1934 and 53 per cent in 1933. Present rate highest since Feb. 20, having risen in seven weeks from 32 per cent, year's low. Steel scrap, a familiar ''trade barometer,'' at highest price since April, 1934. Expansion of steel production ascribed chiefly to farming demand, railroad and automobile buying slack.

Aug. 22—Stock averages rise to 103.92, highest of year. Trading large. House of Representatives abandons opposition to ''death sentence'' in Utilities Holding Company Bill, voting 219 to 142 for Senate compromise bill, which President describes as ''greater recession from the Senate bill than I should like to see made.''

Aug. 23—Stock averages rise to 104.24, highest of year to date, despite early weakness of utilities. Cotton breaks $3@$4.30 per bale on Agricultural Department's announcement that only 9 cents a pound will be loaned on cotton, against 12 in past year, government ''to make up the difference between market price of sales and 12 cents.''

Aug. 24—Cotton down $1@$1.25 per bale. All administration bills passed but Congressional resolution to adjourn at midnight rescinded so as to consider cotton-loan policy and extension to grain trade. Stocks lower; fear that continuance of session will open way for ultra-radical bills.

Aug. 26—Stock market advanced; nearly recovering previous week's high level. Congress adjourned at midnight, after administration had agreed to lend on cotton at 10 cents instead of 9.

Aug. 27—Stock averages lower, but industrial averages at new high since Nov., 1931. Cotton up nearly ¼ cent to 11.05.

Aug. 28—Steel output down from 50½ per cent to 50; first decline since first July week. Scrap steel advanced further.

Aug. 31—Concession of large part of Ethiopian territory by Emperor to Anglo-American syndicate, for oil-exploration purposes, announced, but believed would not be carried out.

SEPTEMBER

Sept. 2—Treasury offers for Oct. 15 conversion of last of the war loans ($1,250,000,000 Fourth 4¼s) into twelve-year Treasury bond-bearing 2¾ per cent or three and one-half-year 1½ per cent Treasury note; also offers for cash subscription $500,000,000 of the notes. Standard-Vacuum Syndicate withdraws from Ethiopian concession.

Sept. 3—Treasury announces $1,250,000,000 cash subscription for $500,000,000 of 1½ per cent notes. Government bond prices recover on market; renewed advance in stocks. Bankers Trust Company and Central Hanover reduce dividends by one-third, owing to low money rates.

Sept. 5—Stock market averages rise, passing previous high mark for 1935. Trading 1,891,000 shares. Steel output up from 50 per cent to 50½.

Sept. 6—President's response published to Roy Howard's letter, which had stated that ''there can be no recovery until the fears of business have been allayed through the granting of a breathing spell to industry; a recess from further experimentation.'' President replies that his ''basic program has now reached substantial completion''; that ''the breathing spell is here—very substantially so.'' Stocks rise sharply to year's highest, on 2,100,000-share business.

Sept. 7—Further rise in stocks; largest Saturday business (1,289,000 shares) since Feb. 10, 1934.

Sept. 9—Another rise in stocks, averages highest since Sept. 17, 1931. Gold engagements for New York at Paris begin again, first since June.

Sept. 11—Stocks rise to highest average since Sept. 14, 1931; trading largest since July 26, 1934. Steel output up from 50½ per cent to 52½.

Sept. 14—Treasury closes conversion offer of 3½-year 1½ per cent notes for $1,250,000,000 called 4¼s; exchanges had been $428,000,000. Alternative offer of 2¾ per cent 12-year Treasury bonds remains open; $331,000,000 exchanged to date.

Sept. 16—Bank of Netherlands raises discount rate from 5 per cent to 6. Amsterdam had given up $13,200,000 gold for America in week, Paris $20,500,000. Morgan, Stanley & Co., formed by retiring J. P. Morgan & Co. partners to take over firm's underwriting interests, opens for business.

Sept. 17—May wheat goes to $1 in Chicago, on war talk and Argentine crop shortage. Compares with 82⅝ cents May 31; first dollar price since April 29.

Sept. 18—Stock averages go to highest of 1935. Steel output recedes from 52½ per cent to 52. Iron and Steel Institute reports total net income of 158 steel companies for half-year $3,559,978 above 1934, gain of 22 per cent.

Sept. 19—Deadlock between Mussolini and League of Nations; British warships to Mediterranean. Wheat for all deliveries goes above $1; May to $1.02⅞, highest since Dec. 10, 1934. Liverpool prices highest since September, 1930, except for brief period in August, 1934. Buenos Aires prices highest since August, 1930. Predictions drought will prevent exports of this crop from Argentina; 1934 Argentina exports having been 175,000,000 bushels. Import of $8,200,000 gold arranged from England. Stocks lower.

Sept. 20—Stocks in United States and abroad decline heavily on war scare; wheat prices react. Gold engaged abroad for import $38,000,000; from England $16,100,000.

Sept. 24—Stock market averages up 2⅝ points from decline of 6¼ on war scare of Sept. 19 and 20. News of Ethiopian dispute more favorable.

Sept. 25—Weekly steel output recedes again from 52 per cent to 51½.

Sept. 26—Council of League of Nations unanimously votes sanctions will be applied against Italy if Italy goes to war with Ethiopia. Markets continue steady.

OCTOBER

Oct. 2.—Mussolini makes war speech on Ethiopia. Stock market averages fall 3⅛ points, largest decline since July, 1934. Wheat rises 5⅛c to $1.07⅞, highest of year. Steel output rises from 51½ per cent to 52½. Finished steel up $1 a ton for week; first change since July, 1934.

Oct. 3.—Italian invasion of Ethiopia announced. Home and foreign stock markets recover from previous day's weakness; N. Y. averages rise 1⅛ points. Wheat declines 1⅝c.

Oct. 7—Stock market averages 3⅛ points above week's low level. League of Nations Council votes unanimously Italy was guilty of provoking war, and sanctions should be applied under League covenant.

Oct. 8.—Stock market averages down 1 point. Steel output declines from 52½ per cent to 52.

Oct. 9—Stock trading only 883,000 shares, smallest since Aug. 30. President Gay of New York Stock Exchange, in speech to American Management Association, discusses abnormally low money and huge surplus bank reserves, asserting that, unless Federal Reserve and Treasury intervene, ''there may again be in the future a wild and runaway stock market, culminating in a crash as violent and dangerous as that of 1929.''

Oct. 10.—Stock market averages up 1¾ points; trading 1,863,000 shares.

Oct. 11—Exchange of called Fourth Liberty 4¼s, under Treasury offer of Sept. 2, completed. Treasury announces conversion of $998,090,050 out of $1,246,000,000 called; of which $568,910,050 were converted into 2¾ per cent twelve-year bonds and $429,100,000 into 1½ per cent four-year Treasury notes. Operation ends conversion of wartime bond issues, all of which have now been exchanged for lower-rate issues or redeemed in cash.

Oct. 15.—Stock market averages rise 1⅝ points; transactions 2,573,000, largest since Sept. 11 and second largest since July 26, 1934.

Oct. 16—Dutch bank rate reduced from 6 per cent to 5, reflecting increase of 26,000,000 guilders gold in fortnight, despite gold exports to America. Steel output unchanged at 52 per cent.

Oct. 21—Trading in stocks 2,870,000 shares, largest since July 26, 1934; averages go to new high mark for 1935.

Oct. 22—Steel output rises to 52½ per cent, recovering high mark of season. Dutch bank rate lowered further to 4½ per cent.

Oct. 23—New Haven railroad files petition in bankruptcy. Company's stock and bonds decline, but stock market's general averages rise 1½ points on trading of 2,750,000 shares, to highest average since Sept. 12, 1931.

Oct. 28—Stock market averages go to highest of year.

Oct. 30—Steel output up from 52½ per cent to 53½, highest of Autumn, but still below February's best.

NOVEMBER

Nov. 4—Stock market averages at highest of year to date; 33⅝ points above low level of March, 77½ above low of 1932. Dutch bank rate reduced from 4½ per cent to 4.

Nov. 6—Stocks very active on Republican successes in previous day's elections. Averages up 2⅛ points. Trading 3,075,000 shares, first 3,000,000-share day since July 26, 1934. Steel output down from 53½ to 52½, but renewed rise predicted.

Nov. 7—Stocks react slightly. Utilities Holding Company Act declared unconstitutional by Federal District Court at Baltimore; appeal to higher court expected.

Nov. 13—Secretary Roper, addressing annual meeting of Associated Grocery Manufacturers at New York, declares that President Roosevelt's recent promise of a ''breathing spell for business'' means specifically that ''the basic program of reform has been completed.'' Roosevelt orders cut of $500,000,000 in 1937 budget, as compared with that for 1936. Dutch bank rate reduced from 4 per cent to 3½. Steel output rises from 52½ to 54, comparing with 56½, year's highest, in February; 32 July 3 and 27 this date, November, 1934.

Nov. 14—Stocks rise again on trading of 3,948,000 shares; largest day's business since Feb. 7, 1934. Tory party wins sweeping victory in British elections. French bank rate raised from 3 per cent to 4.

Nov. 18—''Sanctions'' applied by League powers against Italy.

Nov. 19—Stock averages go to another high level for year; day's business 3,198,000 shares.

Nov. 20—Stocks fell back sharply. Trading 3,813,477 shares, largest of year, excepting Nov. 14. Steel output rises from 54 per cent to 54½; motor-car companies buy.

Nov. 22—Governor Eccles of the Federal Reserve, in public statement, denies that ''restraint'' can be put on the present stock market by the Federal Reserve, asserting: ''The system has no authority whatosever to curb buying of securities by individuals or corporations, whether foreign or domestic. Its only authority in this matter is over margin requirements, which apply only when transactions are on credit, as is not the case to any extent at the present time. The only power the system has is to control the speculative use of bank credit. There is no speculative use of bank credit in the present situation.''

Nov. 23—Stock market rises on heavy Saturday trading; but not to week's highest.

Nov. 25—Federal Reserve's monthly bulletin and American Federation of Labor declare that recovery is genuine and substantial and is likely to continue. Federal Housing Administration declares that ''the nation is looking forward to unusual building activity in the Spring and Summer of 1936.'' Downward reaction of stocks in another 3,000,000-share day. Bank of France raises rate to 6 per cent.

Nov. 26—Steel production rises to 56 per cent of capacity, highest of year, except for 56½ of first week in February. Average for November 54.20, highest of any month since May, 1934. Scrap prices at highest since October, 1930. Contrary to expectation, no general advance was made in steel prices.

Nov. 28—Bank of France loses in week 1,364,000,000 francs gold, making loss in four weeks 3,132,000,000 francs, or $206,712,000. Laval Ministry wins vote of confidence in Deputies, 345 to 225.

Nov. 29—Roosevelt at Atlanta defends government spending, asserts that ''great bankers'' in the Spring of 1933 told him that ''country could stand a national debt of between 55 and 70 billions,'' that relief and reconstruction were ''well worth the price,'' but declared also that the nation could ''look forward with assurance to a decreasing deficit.''

DECEMBER

Dec. 3—Advisory Council's recommendation to Reserve Board made public; council advises reduction, through sale, of Federal Reserve's $2,430,000,000 United States Government securities; in order (1) to remove a dangerous basis for currency and credit, (2) to reduce excessive member bank surplus reserves, whose existence may hereafter cause ''a new wave of speculation'' like that of 1929. Steel production up from 56 to 57 per cent, highest since third week of June, 1934, when buying was stimulated in advance of rise in code prices. Railroad and structural steel orders increase.

Dec. 4—Day's receipts of imported gold at New York, $88,712,000, break all daily records. Bank of France reports week's reduction in gold holdings 2,834,000,000 francs, making loss in five weeks 5,966,000,000 francs, or $393,700,000. Fall of Laval ministry expected.

Dec. 6—Laval wins vote of confidence, 351 to 219, in French Chamber.

Dec. 8—British and French Foreign Offices agree on peace plan, by which Italy will get one-third of Ethiopia. Indignant opposition by other powers.

Dec. 9—Treasury lowers bid for silver. Price falls 7-16d at London to 28¾d, lowest since March 26. Year's highest 36¼d, April 26. New York price down ⅝c to 64¾c, lowest since April 10; year's highest 81c, April 26.

Dec. 10—Treasury withdraws from London silver market. London price unquoted for first time since war outbreak in 1914. New York reduces price 1c to 63¾c, then suspends trading.

Dec. 11—Silver at London falls 1¼d to 27½; at New York 1c to 62¾c. Steel output down from 57 to 56 per cent, but scrap sells at highest since September, 1930.

Dec. 12—St. Louis Southwestern Railroad declares insolvency. Argentine Government fixes wheat price at 90c per bushel; previous Argentine market price 78¼c. Silver falls to 61¾c.

Dec. 14—London silver price 26 7-16d, no New York quotation. Chicago wheat rises 1⅞c, then falls 2¼c.

Dec. 17—Silver down to 24⅞d at London, lowest since Feb. 15; New York price 58¾c.

Dec. 18—Anglo-French peace plan for Ethiopia abandoned; British Foreign Minister resigns. Steel output down from 56 to 55½ per cent. Federal Reserve Board of Governors, meeting with system's open-market committee, announce that no measures will be taken immediately to reduce surplus bank reserves or raise reserve requirements. Admitting that present surplus is ''excessive, far beyond present or prospective requirements,'' announcement points out that ''the country is still short of a full recovery,'' that the primary objective ''is still to lend efforts to a furtherance of recovery,'' and that ''there is at the present time no evidence of over-expansion of business activity or of the use of business credit.''

Dec. 20—RFC grants loan to Great Northern of $100,000,000 at 4 per cent.

Dec. 23—Silver at New York falls 1c to lowest of 1935 to date, 50¾c per ounce. Under United States Silver Purchase Law and Presidential decrees fixing price for newly mined American silver at 64.64c to 77.57c, price had previously risen from 53½c Feb. 1 to 81c April 26.

Dec. 24—New York price for silver down to 49¾c, lowest of year.

Dec. 26—Steel production decreased to 48½ per cent, against 55½ preceding week; but expansion of activity is predicted by the trade for January.

Dec. 28—Laval, whose defeat in French Chamber was expected, wins vote of confidence 296 to 276.

Dec. 30—Sharp rise in stocks. Franc rises to highest price in fortnight.

Dec. 31—Steel output ends year at 47½ per cent of capacity. Stocks rise sharply, on trading of 2,439,000 shares.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ECONOMICS

Accountants Assn. of N. Y., 51 Chambers Street, New York City.
American Economic Association, Northwestern University, Evanston, Ill.
American Fair Trade Assn., 71 W. 23rd Street, New York City.
American Home Economic Assn., 41 Eliot Memorial Road, Newton, Mass.
American Institute of Accountants, 135 Cedar Street, New York City.
American Institute of Weights and Measures, 33 Rector Street, New York City.
American Retailers', Inc., 128 W. 31st Street, New York City.
American Statistical Assn., Inc., 236 Wooster Street, New York City.
Chamber of Commerce of the United States, 1615 H Street N. W., Washington, D. C.
Consumers' League of New York, 150 Fifth Avenue, New York City.
Cooperative League of U. S. A., 167 W. 12th Street, New York City.
French Chamber of Commerce, 4 E. 52nd Street, New York City.
General Society of Mechanics & Tradesmen of New York City, 18 W. 44th Street, New York City.
Home Market Club, 38 Chauncey Street, Boston, Mass.
Institute of Economics, 722 Jackson Place, Washington, D. C.
International Accountants' Society, 3411 S. Michigan Ave., Chicago, Ill.
Italian Chamber of Commerce in New York, 99 Hudson Street, New York City.
League for Industrial Rights, 40 Wall Street, New York City.
Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh, Pa.
Merchants' and Consumers' League, 362 E. 169th Street, New York City.
National Assn. of Cost Accountants, 1790 Broadway, New York City.
National Assn. of Credit Men, 1 Park Ave., New York City.

National Assn. of Real Estate Boards, 59 E. Van Buren St., Chicago, Ill.

National Bureau of Economic Research, Inc., 51 Madison Avenue, New York City.

National Consumers' League, 156 Fifth Ave., New York City.

National Economic League, 6 Beacon Street, Boston, Mass.

National Foreign Trade Council, 1 Hanover Square, New York City.

National Research Council, 29 W. 39th Street, New York City.

National Wholesale Grocers' Assn. of the U. S., 99 Hudson St., New York City.

New York Stock Exchange, 11 Wall Street, New York City.

Order of United Commercial Travelers of America, 632 N. Park St., Columbus, O.

Petroleum Import & Export Corporation, Inc., 70 Pine Street, New York City.

BANKING AND CURRENCY

American Bankers Assn., 22 E. 40th Street, New York City.

American Institute of Banking, 22 E. 40th Street, New York City.

Investment Bankers Assn. of America, 531 First National Bank Bldg., 33 S. Clark St., Chicago, Ill.

Investors' Protection Committee, 280 Broadway, New York City.

National Assn. of Mutual Savings Banks, 347 Madison Avenue, New York City.

National Assn. of Superintendents of State Banks, Nashville, Tenn.

New York Clearing House Assn., 77 Cedar St., New York City.

United States Building and Loan League, 22 East 12th Street, Cincinnati, O.

INSURANCE

Actuarial Society of America, 393 Seventh Avenue, New York City.

American Institute of Actuaries, 720 N. Michigan Ave., Chicago, Ill.

American Institute of Marine Underwriters, 99 John Street, New York City.

American Life Convention, Omaha, Neb.

American Marine Insurance Syndicates, 99 John Street, New York City.

Association of Casualty & Surety Executives, 1 Park Ave., New York City.

Association of Life Insurance Presidents, 165 Broadway, New York City.

Board of Underwriters of New York, 99 John Street, New York City.

Casualty Actuarial Society, 90 John Street, New York City.

National Assn. of Life Underwriters, 11 W. 42nd Street, New York City.

National Assn. of Mutual Casualty Cos., 60 E. 42nd Street, New York City.

National Assn. of Travelers' Aid Societies, 23 W. 43rd Street, New York City.

National Board of Fire Underwriters, 85 John Street, New York City.

National Bureau of Casualty & Surety Underwriters, 1 Park Ave., New York City.

National Council of Compensation Insurance, 151 Fifth Ave., New York City.

National Fire Protection Assn., 60 Batterymarch, Boston, Mass.

Surety Assn. of America, 60 John Street, New York City.

DIVISION XI

AGRICULTURE AND ALLIED INDUSTRIES

CONDITIONS IN AGRICULTURE

BY HENRY A. WALLACE

SECRETARY OF AGRICULTURE

GENERAL

Farm recovery under the Agricultural Adjustment Act in 1935 advanced us further toward the ideal of a balanced abundance and promoted a fuller utilization of our human and material resources. Recovery from last year's drought was under way. As consumer-buying power increased with revived industrial activity and laid the foundation for a higher national standard of living, the crop programs allowed for increased production for domestic consumption. Farm incomes increased because farmers had more to sell at a fair price, and consumption per capita was well maintained. But the task of establishing a balanced abundance is not the sole responsibility of the farmers; indeed, it is not even mainly their responsibility. The invalidation of the AAA by the Supreme Court on Jan. 6, 1936 faced agriculture, however with the problem of devising new means to do its part.

AGRICULTURAL PRODUCTION

Agriculture is not the laggard in production. In August, 1935 factory employment in this country was nearly one-fourth lower than it was in 1928, and about one-fourth of the urban population that should have been employed was not. But most of the factory unemployment was in the factories processing industrial, not farm products. Factories processing farm products employed in 1934 about 82 per cent as many wage earners as they did in 1929, whereas the factories processing non-agricultural raw materials employed 30 per cent less labor than in 1929. Most of our agricultural, industrial, and fiscal difficulties would be solved if the manufacturing branches of industry were operating as freely as the agricultural. From the standpoint of domestic requirements, agriculture, in contrast with industry, has maintained its output.

FARM SURPLUSES AND PRICES

In the two and a half years that have elapsed since the passage of the Agricultural Adjustment Act the farm surpluses have largely disappeared. Cotton is still present in quantities much above immediate requirements, but supplies of grains and livestock products are no longer excessive. Stocks of certain types of tobacco are still large. Dairy supplies are more nearly in line with the effective demand. Between 1932 and 1934 the production of 12 important crops declined more than one-third, and farm commodity prices rose. For the calendar year 1932 the prices of farm products averaged only 65 per cent of the pre-war level. In March, 1935 they averaged 108 per cent of the pre-war level. These changes in production and prices, however, were only partly the result of the AAA adjustments and for many commodities were excessive. The drought of 1934 was very largely the cause. It would be wrong to conclude, therefore, that the need for crop adjustment had disappeared. On the contrary, it continued. Latent tendencies toward overproduction were still in evidence, which would become active immediately if foreign demand should remain stagnant and weather return to normal.

SHORTCOMINGS IN EMERGENCY ADJUSTMENTS

Certain shortcomings developed in the emergency adjustments which should be remedied in future planning for agricultural advancement. In the drive for quick results, the effect on individual farmers could not always be carefully considered. Emergency adjustment contracts, as a matter of convenience, had to be based on the past production of individual farmers. That tended to make past production a sort of property right, to perpetuate maladjustments among farmers and regions, and to prevent desirable adjustments to changing economic, physical, and climatic conditions. Farmers made flat percentage cuts from their historic production base. Such flat-percentage adjustments tended to give the highest base to farmers who had responded slowly to the changed market conditions after 1929 and to penalize farmers who had responded more promptly to the reduced demand. Moreover, the emergency adjustments tended to freeze farm production in the historic mold, in violation of efficient practice. Many farmers, though approving of the adjustment program as a whole, were dissatisfied with some of the details.

FUTURE ADJUSTMENT PROGRAM

The task is to conduct our agriculture so as to give the desired production for the nation as a whole and at the same time to permit the individual farmer in the different regions and areas to follow the farming system best adapted to his conditions and to his farm. In the initial stages of the Agricultural Adjustment Administration programs the emphasis was necessarily on reducing production. Now, that these efforts, with the added influence of drought in 1933 and 1934, have reduced agricultural supplies to nearly normal levels, the emphasis must be shifted. It must be positive rather than negative and must allow for certain increases in production as well as for desirable changes in cropping systems. This is a logical outgrowth of what has been done already. In long-time farm adjustment it is imperative to advance from the historic base principle, with its tendency to freeze production by areas and by individual farms in the accustomed mold, to a method better adapted to good farm management and good land use. The transition from flat-percentage reductions to differential adjustments makes the task more complicated, but has the great advantage of being both fairer and more scientific. Also it enlists the cooperation of the farmers in definitely constructive operations, as distinguished from mere efforts to raise prices by cutting down supplies.

Because of the innumerable factors involved, it is important to proceed cautiously before adopting future programs. But it may be possible to build to some extent on the framework that has been developed already and to retain something of that which has stood the test of practice. Incorporating the new principles into action programs is necessarily a slow and gradual process, and the steps that can be taken immediately will carry us only a little way toward the goal. As experience accumulates, the pace can be accelerated.

AGRICULTURAL INCOME

That the farm share of the national income is still much below what it should be is evident. From 1910 to 1914, when the farm population was about 25 per cent of our total population, agriculture's share of the national income averaged 17.3 per cent. In 1932 the farm share averaged only 7.5 per cent. Since then it has increased moderately; in 1933 the percentage was 9.9, and in 1934 it was 10.2. But for decades before 1929 the farm income averaged a little more than half the percentage that the farm population constituted of the total population. On the historic basis, the farm share should now be from 13 to 14 per cent. True, the long-time trend does not surely indicate the relationship that should always prevail, because the conditions and the technology of agriculture change continually. Moreover, our present farm population, which this year reached a new all-time peak, includes large numbers who are not really necessary to farm production. The problem is to discover how the farm income may be increased so that it will stay increased for all the people who should be on farms.

Fundamentally, the problem is to give agriculture its due share of the national income through an approach to abundance rather than through an approach to scarcity. This necessitates an increase in both farm production and factory production but at different rates. Agriculture has begun to plan for an increased output. But the result, unless urban industry, too, increases its output, will be lower relative farm prices and possibly a further decline in the farm share of the national income, if not also in the absolute income of agriculture. Agriculture cannot achieve its goal without the cooperation of industry. It must get industry to agree that parity income for agriculture should come about, not on an extremely high price level through competitive scarcity but on a lower level consistent with increased production and consumption. Such a balance would harmonize with progress, with a rising standard of living in both town and country and with a just diffusion of the resulting benefits. It is vital, in redistributing the national income for the ends of social justice, not to jeopardize the amount. Agriculture may fairly ask an increasing share of an increasing total income but not an increasing share of a diminishing total.

It is too early as yet to estimate, except very roughly, the return to farmers from their production in 1935. Marketing of the crops will not be finished until well along in 1936. Present indications are that the farmers' gross income from the year's production, and from rental and benefit payments, will be approximately $7,800,000,000. This total may be compared with $7,300,000,000 gross income from the production of 1934, and $5,337,000,000 in 1932, when the depression was at its worst. In 1929, in which year the gross farm income was at the highest level since 1920, the total was nearly $12,000,000,000. While the gross farm income for 1935 is approximately one-third lower than that of 1929, the prices paid by farmers for goods and services are about one-fifth lower. The 1935 gross farm income will have about four-fifths of the purchasing power that the gross farm income of 1929 had. Farm population has increased in the meantime about 10 per cent, but some of the increase has been supported on relief. It would not be quite true, therefore, to say that this year's farm earnings must be spread over 10 per cent more people than the earnings of 1929.

PRODUCTION COSTS

In the last two years farm costs of production have increased less than the gross farm income. This is a typical phenomenon in periods of recovery from depression and tends to compensate for the opposite condition which prevails on the down-turn. Changes in production costs lag behind changes in prices, with the result that in a period of recovery the margin of income over expenditures increases. Thus in 1934 the gross income of agriculture was nearly $2,000,000,000 more than in 1932, whereas the total expenditures for production were only about $320,000,000 greater. Moreover, the principal increase in production expenditures was in capital items such as machinery, buildings, and repairs, which are in the nature of permanent improvements. However, farmers did not provide fully for the depreciation of their machinery and buildings.

FARM REAL ESTATE VALUES

Reflecting the continued agricultural recovery, farm real estate values increased during the year ended March 1, 1935, for the second successive year. The improving market for farm land brought with it certain definite advantages to agriculture. It increased the equities of farm owners, made loan companies more willing to finance sales, encouraged tenants to consider buying their farms, and gave members of the older generation a chance to step out of active farming with less sacrifice than in recent years. The uptrend resulted mainly from the improvement achieved in farm earning power and from aid extended by the Farm Credit Administration and by private lending agencies in the refinancing of mortgage debt.

Farm land values tend normally to vary with farm earning power, current and prospective, and the prevailing recovery follows a long period during which the curve was downward. The United States Department of Agriculture's index of the average value per acre of farm real estate rose, in the 12-month period ended March 1, 1935, from 76 to 79 per cent of the pre-war level. Creditor agencies with farms for sale in some cases raised their asking prices, and the general tone of the farm real-estate market improved materially. The rise in valuations brought welcome relief to farmers who had seen their life savings approach the vanishing point. The increases in value were distributed throughout most of the principal farming sections, and evidenced the broad extent to which farm earnings had improved in the preceding two years. The greatest advances relative to a year ago took place in the Southern states. There were substantial gains in the East, North, Central states and in Iowa. In the western part of the Middle West and in certain areas of the Southwest, however, the drought of 1934 influenced valuations adversely.

Changes of ownership of farm real estate showed encouraging trends during the year. Fewer forced sales resulted from debt difficulties or from failure or inability to pay taxes. Forced transfers associated with debt declined from an estimated frequency of 28 to 21 farms per 1,000 of all farms. The decreases were general and occurred in nearly all the states. Changes of ownership resulting from failure to pay taxes involved 7.3 farms per 1,000 of all farms, as compared with 11.1 in the previous year. Voluntary sales and trades were estimated at 19.4 farms per 1,000 of all farms, as compared with 17.8 in the preceding year. Federal land banks reported increased sales, higher prices, and a larger proportion of the selling price received in cash payments.

The returning market for farm real estate carries with it the reminder that rising farm realty values in the past have not always been without untoward effects on agriculture. The agricultural difficulties of the post-war depressions would have been far less serious had not farm real estate been greatly overvalued in the preceding boom. Prior to 1920 the belief appeared to be wide-spread that farm earning power would always increase; and in some areas more than half the current selling price of farm land reflected the expectation of such a continued uptrend in farm earnings.

It is wise to keep valuations conservative. Farmers as a group cannot benefit in the long run by allowing an excessive proportion of their earnings to be absorbed in land charges. It is imperative to bear constantly in mind the fact that land charges come out of farm earnings and that speculation in farm land values accentuates booms and intensifies the ensuing depressions. It multiplies the difficulties of men who want to buy farms for actual farming.

AGRICULTURAL LEGISLATION

Provisions for Basic Research.—The first session of the 74th Congress passed an act providing for basic research and the further development of cooperative agricultural extension work by the United States Department of Agriculture and the land-grant colleges and agricultural experiment stations.

Title I of the measure (Public No. 182, approved June 29, 1935), authorizing basic research, directs the Secretary of Agriculture to conduct scientific, technical, economic, and other research into laws and principles underlying basic problems of agriculture in its broadest aspects, and also authorizes and directs him to conduct research to improve the quality of agricultural commodities, to develop new and improved methods for their production and distribution, to discover uses for farm products and by-products and manufactures thereof, and to study the conservation, development, and use of land and water resources for agricultural purposes.

Research Appropriations.—For the purposes of Title I, the Act authorizes the appropriation of $1,000,000 for the fiscal year begun July 1, 1935, and for each of the four fiscal years thereafter $1,000,000 more than the amount authorized for the preceding fiscal year, and $5,000,000 for each fiscal year thereafter. This money is for work in addition to, and not in substitution for, research or other activities provided for otherwise. Forty per cent of the money is for expenditure directly by the Department and the remaining 60 per cent for allotment among the states and Alaska, Hawaii, and Puerto Rico.

Other Appropriations.—Under Title II the measure authorizes appropriations for the further development of the cooperative-extension system in the several states and the Territory of Hawaii. For this purpose it authorizes an appropriation of $8,000,000 for the fiscal year begun July 1, 1935, and for each fiscal year thereafter an additional $1,000,000 until the total reaches $12,000,000 annually. This money will be distributed in a manner similar to that governing appropriations under the Smith-Lever Act of May 8, 1914, with the exception that the allotments will be made on the basis of farm population rather than of rural population, and with the further exception that the states and Hawaii need not match the Federal funds. Title II also authorizes additional appropriations for the land-grant colleges—$980,000 for the fiscal year begun July 1, 1935, and the same amount for each year thereafter. This sum is to be divided equally among the several states and Hawaii. The same title authorizes $980,000 more for the colleges for the fiscal year beginning July 1, 1936, to be distributed to the States and Hawaii in equal shares, and $500,000 more each year thereafter until the additional amount reaches $1,500,000 annually. These latter sums are to be paid to each of the states and to Hawaii in the proportion which the population of each bears to the total population of all the states and the Territory of Hawaii. The maximum total for the land-grant colleges will, therefore, be $2,480,000.

Crop Production Loans.—Loans to farmers for crop production were provided for in an act (Public No. 11, approved Feb. 20, 1935) authorizing an appropriation of $60,000,000 with which the Governor of the Farm Credit Administration could make loans to farmers in the United States and in Alaska, Hawaii, and Puerto Rico during 1935 for fallowing, production and harvesting of crops, and feed for livestock.

Amendments.—An act (Public No. 87, approved June 3, 1935), amending previous Federal credit legislation, authorized reduction in interest rates on Federal land bank loans, authorized loans to cooperative associations, amended the provisions of the Federal Farm Loan Act relating to the formation of national farm loan associations, and authorized the Land Bank Commissioner to make loans for the purchase of land by tenant farmers.

XI. AGRICULTURE AND ALLIED INDUSTRIES

COTTON AND GRAIN CROPS

By Joseph A. Becker

Chairman, Crop Reporting Board

COTTON ACREAGE

The 1935 cotton crop was about one-fourth less than an average crop.* A yield per acre about 10 per cent above average was much more than offset by a decrease of one-third in acreage. The low level of acreage was due to the production control program of the Agricultural Adjustment Administration which called for a reduction in acreage on the farms of contracting growers of 25 to 35 per cent from the base acreage on these farms for the period 1928-1932, inclusive. Furthermore, the Cotton Control (Bankhead) Act of 1934, which limited the quantity of cotton marketable tax exempt from the 1934 and 1935 crops, led non-contracting farmers also to restrict their acreage.

The acreage of cotton in cultivation on July 1 as given in the Dec. 1 report was 27,872,000 acres, which was 33 per cent less than the average of 41,437,000 acres. Under the terms of the cotton contract, about 13,800,000 acres of land formerly producing cotton was rented to the Secretary of Agriculture at a rate per acre of 3½c per pound applied to the average yield secured on the individual farms during the base period with a maximum of $18.00 per acre. (In addition, a parity payment of not less than 1¼c per pound on 40 per cent of the average production.) About 33 per cent of the base acreage was rented. About 5,150,000 acres were rented in Texas; 1,300,000 each in Mississippi and Oklahoma; 1,150,000 each in Alabama, Arkansas and Georgia; 650,000 in South Carolina and Louisiana; 500,000 in North Carolina; 350,000 in Tennessee, and 150,000 in Missouri.

About 2,600,000 acres of cotton were planted on farms of growers who did not enter into contract because ineligible, unable or unwilling to make the required reduction, or were growing cotton for the first time in 1935. This acreage was considerably smaller than in 1934 because of the operations of the Bankhead Act.

Abandonment of acreage from such causes as disease, insect damage, flood, extreme drought and similar causes was light in 1935 except in Oklahoma and in the Panhandle of Texas, where drought occurred, but on a less extensive scale than in 1934. About 540,000 acres, equivalent to 1.9 per cent of the July 1 acreage, was abandoned in the country as a whole. Average abandonment has been 2.6 per cent. The acreage actually harvested was 27,331,000 acres, 32.6 per cent less than the average of 40,554,000 acres.

COTTON YIELDS

The yield per acre of cotton lint was above average in all major states except Tennessee where the yield was equal to average, and in Oklahoma and Texas. In these states the crop made a late start, was retarded by dry weather and insect damage, suffered from early frosts and unfavorable weather for picking. For the United States, the yield of 188 pounds was 6.2 per cent above average.

In Oklahoma the 1935 yield of 108 pounds per acre was very much higher than the 56 pounds per acre yield of 1934, but was still only two-thirds of the average of 160 pounds. The 1935 yield of 138 pounds in Texas was only slightly below the average of 144 pounds, but considerably above the 1934 yield of 112 pounds. In Tennessee the 1935 yield of 210 pounds was the same as the average. In 1934 a good yield of 260 pounds was secured. The yield of 199 pounds in Arkansas was only slightly above the 1934 yield of 192 pounds and the average yield of 196 pounds. In all of the other important cotton-producing states the 1935 yield was appreciably above average. In North Carolina it was 300 pounds compared with the average of 266 pounds. In South Carolina it was 266 pounds compared with the average of 211 pounds. The figures for Georgia 233 pounds and 199 pounds respectively. For Missouri 311 pounds and 268 pounds; for Alabama 226 pounds and 182 pounds; for Mississippi 230 pounds and 200 pounds; for Louisiana 216 pounds and 196 pounds.

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* Average acreage and production, when mentioned, relate to the five years, 1928-1932, inclusive; average yield per acre to the ten years, 1923-1932, inclusive.

COTTON PRODUCTION

The Dec. 1 estimate of cotton production was 10,734,000 bales of 500 pounds gross weight. This was 1,098,000 bales greater than the small crop of 1934, but 3,932,000 bales, or 26.8 per cent, below average.

The production of cotton seed in 1935 was 4,775,000 tons in comparison with average production of 6,520,000 tons. This production is calculated from lint production, calculating 65 pounds of seed for each 35 pounds of lint.

The production of lint cotton in Texas in 1935 was 3,050,000 bales in comparison with 2,406,000 bales in 1934 and an average production of 4,580,000 bales. Mississippi ranked next with 1,260,000 bales compared with 1,143,000 in 1934 and an average of 1,559,000 bales. Alabama and Georgia each produced 1,060,000 bales. In 1934 Alabama had 950,000 and Georgia 968,000 bales. The average production in Alabama is 1,255,000 bales and in Georgia 1,241,000 bales. Arkansas in 1935 had a production of 890,000 bales compared with 867,000 in 1934 and an average of 1,351,000 bales. South Carolina produced 745,000 bales in 1935 and 681,000 bales in 1934, against an average of 856,000 bales. North Carolina produced 585,000 bales in 1935 against 629,000 bales in 1934 and an average of 752,000 bales. Louisiana produced 555,000 bales in 1935 compared with 485,000 bales in 1934, and an average of 745,000 bales. Oklahoma had less than one-half of an average crop, 535,000 bales in 1935 compared with the very short crop of 317,000 bales in 1934 and an average crop of 1,109,000 bales.

VALUE OF COTTON PRODUCTION

The total value of lint and seed from the 1935 crop valued at prices paid to producers up to Dec. 1 was $744,554,000, almost the same as the value of $744,588,000 for the 1934 crop. The 1934 price of lint cotton represents the local price on the fifteenth of each month from August, 1934, to July, 1935, weighted by the quantity sold during each month, plus an allowance for a 12-cent per pound price on cotton lint remaining under Government non-recourse loan after the local price declined to less than 12 cents (in March, 1935). Cotton lint alone of the 1935 crop had a value of $593,677,000 compared with $595,602,000 in 1934. These values do not include rental, benefit and parity payments to farmers, which, for the 1935 crop, amounted (or will amount) to about $120,000,000, and for the 1934 crop amounted to $116,000,000. All the cotton lint is normally marketed, and the income from it is equal to the value of production. A considerable part of the cotton seed is taken back from the gin and utilized as seed, feed, and fertilizer. Thus, the cash income from cotton seed from the 1934 crop was only $110,778,000.

The price of cotton lint for the 1935 crop (to Dec. 1) was 11.10 cents per pound, compared with the price of 12.36 cents for the 1934 crop. The price of cotton seed per ton for 1935 was $31.60 per ton compared with the price of 34.79 per ton for the 1934 crop.

GRAIN CROPS

The 1935 season was one of fairly well balanced production with the exception of the wheat crop, which, for the third successive year, was below domestic requirements. The corn crop was 14 per cent below average but was sufficiently large in view of the reduced numbers of livestock on farms. Oats, barley and buckwheat production were each close to average. The production of rice was about 10 per cent below average; grain sorghums, 10 per cent above; and rye, 50 per cent above. The combined production of the grain crops was about 4,502,000,000 bushels, 72 per cent greater than the drought stricken crops of 1934, but 12 per cent less than average. The production of grain crops used primarily for human food —wheat, rye, rice, and buckwheat combined— was 707,821,000 bushels, a fourth more than in 1934, but still only three-quarters as large as the average production of 950,519,000 bushels.

WHEAT

The 1935 wheat crop of 603,199,000 bushels was just about equal to the quantity required in recent years for domestic consumption as flour and for seeding the new crop. A considerable quantity was of such low quality as to be unfit for these uses and will undoubtedly augment the quantity normally fed to poultry and livestock on the farms where produced. Some wheat is also exported as wheat or flour. It is quite apparent, therefore, that further reductions will be made in the stocks of old wheat on hand and that these will be down to or below normal carryover figures by the end of the 1935-36 marketing season. The 1935 crop was more than 100,000,000 bushels greater than the very short crop of 496,929,000 bushels produced in 1934, but 30 per cent less than the average crop of 860,570,000 bushels.

The acreage of wheat harvested in 1935 of 49,826,000 acres was 18 per cent greater than the 1934 acreage of 42,249,000 acres, but 17 per cent less than the average of 59,885,000 acres. A part of the reduction was in seedings. The Agricultural Adjustment Administration program called for a reduction of 10 per cent on the farms of contracting growers, though growers of winter wheat were permitted, on application, to retain acreage seeded for pasture and cover crop purposes for harvest as grain (with limitations) and growers of spring wheat were also permitted on application to seed in excess of their base acreage (with limitations) by the terms of an annoucement made on March 23, 1935. The increments from these sources were not large, however, and represented only about 450,000 acres. On the other hand, heavy abandonment of both winter and spring wheat more than offset any increase permitted on farms of contracting growers and increased seedings on farms not under contract.

WINTER WHEAT

The winter wheat crop of 433,447,000 bushels was about 7 per cent larger than the 1934 crop of 405,552,000 bushels, but was only 70 per cent as large as the average crop of 618,186,000 bushels. Planting and growing conditions were unfavorable again in most areas west of the Mississippi River. Below average moisture supplies existed in many Western areas at seeding time. The acreage seeded of 44,530,000 acres was one per cent below the average of 44,969,000 acres. Continued shortage of moisture throughout the winter resulted in heavy abandonment and low yield at harvest in those areas. Of the acreage seeded for 1935, 30.4 per cent was abandoned, compared with 21.3 per cent of the seedings for 1934, and an average abandonment of 12.6 per cent. Harvested acreage was 31,000,000 acres, compared with 32,968,000 acres in 1934, and the average of 39,454,000 acres. The yield in 1935 was 14 bushels per harvested acre, compared with 12.3 bushels in 1934 and the average of 15.2 bushels.

SPRING WHEAT

The 1935 production of spring wheat of 169,752,000 bushels was nearly double the very short crop of 1934 of 91,377,000 bushels, but only 70 per cent of the average production of 242,384,000 bushels. The July 1 report showed 20,837,000 acres seeded, but abandonment was heavy and only 18,826,000 acres were harvested. While this was double the 9,281,000 acres harvested in 1934, it was 8 per cent less than average. In the main spring wheat belt, the crop was seeded later than usual, then made rank growth during the cool, moist weather of June, but was later severely damaged by rust and hot weather in July and the first part of August. The average yield per harvested acre was 9 bushels compared with 9.8 in 1934 and the 12.4 bushel average.

The production of durum (or macaroni) wheat in 1935 was less affected by rust, drought and abandonment than was other spring wheat, but the seeded acreage was small in comparison with average. The July 1 report showed 2,737,000 acres seeded in comparison with the average of 5,154,000 acres. The harvested acreage was 2,644,000 acres, nearly three times as large as the 990,000 acres in 1934 but only 55 per cent of average. The 1935 yield per harvested acre was 10.1 bushels. In 1934 only 7.2 bushels per acre were harvested, and the average yield is 11.7 bushels.

The production of spring wheat, other than durum, was 142,975,000 bushels, compared with 84,291,000 bushels in 1934, and average production of 188,476,000 bushels. The July 1 report showed 18,100,000 acres seeded, but only 16,182,000 acres were harvested. This was nearly double the 1934 acreage of 8,291,000 acres and slightly above the average of 15,626,000 acres. The yield in 1935 was 8.8 bushels per harvested acre compared with 10.2 bushels in 1934 and the average of 12.6 bushels.

The average price of wheat produced in 1935 of 83.8 cents per bushel was nearly the same as the 84.7 cents per bushel received by farmers for the 1934 crop. Because of the relatively greater supplies of durum, the price of that kind of wheat was only 75.1 cents per bushel, while other spring wheat brought 92 cents. In 1934, durum wheat, at 101.8 cents, was higher than other spring wheat at 85 cents. The 1935 farm value of all wheat was $505,394,000; 1934, $420,808,000. These value statements do not include rental and benefit payments by the Agricultural Adjustment Administration of about $116,000,000 in 1935 and $102,000,000 in 1934.

RYE

The 1935 production of 57,936,000 bushels of rye is the largest crop produced in this country since 1924. The crop was extensively seeded for fall pasture in the 1934 drought area and a high percentage of the seeded acreage was retained for grain. In 1934, only 16,045,000 bushels were harvested, the 1935 crop was half again as large as the average of 38,655,000 bushels. The harvested acreage of 4,063,000 acres was more than double the 1934 acreage of 1,942,000 acres and more than 23 per cent greater than average. The 1935 yield per acre was above average in all the main rye-producing states. For the country, yields were 14.3 bushels, compared with 8.3 bushels in 1934 and the average of 12.2 bushels.

While the price per bushel of 38.4 cents was only slightly more than half the 71.3 cents price received for the 1934 crop, the total farm value of $22,248,000 in 1935 was about double the 1934 farm value of $11,445,000.

BUCKWHEAT

The production of 8,234,000 bushels of buckwheat in 1935 is 9 per cent less than the 9,042,000 bushels produced in 1934, but is practically the same as the average of 8,277,000 bushels. Acreage harvested was 496,000 acres, not greatly different from the 478,000 acres harvested in 1934, but 13 per cent below average. The yield of 16.6 bushels was somewhat higher than the average of 15.7 bushels. The 1935 crop, at 53.5 cents per bushel, had a farm value of $4,404,000, while the 1934 crop, at 58.6 cents, was valued at $5,296,000.

RICE

The 1935 production of rice of 38,452,000 bushels was about the same as the 38,296,000 bushel crop of 1934, but 10 per cent below the average of 43,017,000 bushels. Arkansas, Louisiana, and Texas produced 31,788,000 bushels, compared with 30,631,000 bushels in 1934; while in California 6,664,000 bushels were harvested, compared with 7,665,000 in 1934. The yield of 49 bushels per acre in each year was 13 per cent above the average of 43.3 bushels. With the exception of the 781,000 acres harvested in 1934, the 1935 acreage of 784,000 acres is the smallest of any year since 1914. The average acreage is 924,000 acres. The Agricultural Adjustment Administration program on rice acreage, in operation for the first time in 1935, called for an allocation of acreage. Contracting growers received rental and benefit payments of about

$8,200,000. The farm value of the crop, excluding rental benefit payments, was $24,011,000 in 1935, and $30,332,000 in 1934. The price per bushel of the 1935 crop was 62.4 cents, and of the 1934 crop, 79.2 cents.

FEED CROPS

The combined production of the four farm feed crops—corn, oats, barley, and grain sorghums—in 1935, expressed in tons to allow for different weights per bushel, was 90,719,000 tons, about 80 per cent greater than the very short production of 50,782,000 tons in 1934, but about 10 per cent less than the average of 100,636,000 tons. The greater part of the production of these crops is fed on farms where produced and only a small quantity is consumed as food by human beings or used in industry. Farmers' incomes from these crops, therefore, come largely from the livestock to which these crops are fed. No material change from average in the livestock feed situation is indicated as the production of feed grain and hay appears fairly liberal when compared with the reduced numbers of livestock on the farms as a result of the Agricultural Adjustment Administration reductions in hog numbers and the Government purchases of cattle and sheep in 1934 as a drought relief measure. On the other hand, when allowance is made for the very small reserves of feed and forage carried over from 1934 and the poor quality of much of the 1935 production, there appears to be no more than the usual supply of grain and roughage per unit of livestock to be fed.

CORN

The 1935 corn crop of 2,202,852,000 bushels was 60 per cent larger than the 1934 drought-stricken crop of 1,377,126,000 bushels, but was 14 per cent less than the average of 2,562,147,000 bushels. These estimates are expressed in the equivalent of ear corn on the entire acreage, including that for silage, forage, hogging down, or grazing, as well as harvested as ear corn. Farmers in the Western Corn Belt have, however, had unusual difficulty in getting the 1935 corn crop dry enough to crib without spoiling and the final feeding value may not be quite proportional to the production.

The acreage of corn planted in 1935 was reduced in part by wet weather which prevented the planting of some acreage, particularly in Missouri, Kansas, and Illinois. It was also reduced from average because of the control program of the Agricultural Adjustment Administration, which called for a reduction of 10 to 30 per cent below the 1932-33 average on the contracting farms. About 11,760,000 acres were kept out of production under contract. Acreage harvested in 1935 was 92,727,000 acres compared with 87,795,000 acres in 1934 and the average acreage of 102,768,000 acres. There is ordinarily little entire abandonment of corn acreage, but in 1934 about 7,600,000 acres were abandoned. Accordingly, about 95,402,000 acres were planted in 1934 after about 13,030,000 acres were rented to the Secretary of Agriculture under the Agricultural Adjustment Administration contract, which called for a 20 to 30 per cent reduction from the 1932-33 average.

The yield per acre of corn in 1935 was 23.8 bushels compared with 15.7 bushels in 1934 and the average of 25.7 bushels. October frosts and earlier drought conditions resulted in reduced yields in most of the important corn-producing states west of the Mississippi River. Corn yields in important corn-producing states east of the River were above average, but frosts caught considerable late corn before maturity in the Northern Corn Belt States.

The production of ear corn in 1935 was 1,923,559,000 bushels from 80,291,000 acres compared with 1,104,659,000 bushels from 58,432,000 acres in 1934. Silage production in 1935 was 33,370,000 tons from 4,565,000 acres, compared with 33,466,000 tons from 6,678,000 acres in 1934. The acreage of corn cut for green or dry forage or used for hogging down and grazing in 1935 was 7,968,000 acres; in 1934, 22,685,000 acres. In 1934 an unusually large acreage was used for purposes other than ear corn because the plant made few or no ears but could be salvaged for roughage.

The average price of ear corn from the 1935 crop was 57.7 cents per bushel compared with 81.6 cents for the 1934 crop. At these prices an equivalent value for feeding purposes or sale of the 1935 crop was $1,271,089,000, and of the 1934 crop, $1,124,321,000. This does not include rental and benefit payments, which, for the 1935 crop, total about $114,000,000, and for the 1934 crop, about $111,000,000.

OATS

Acreage, yield, and production of oats in 1935 were all very near to average and followed the 1934 crop, which was extremely short. Production in 1935 was 1,195,435,000 bushels; in 1934, 525,889,000 bushels; average, 1,217,646,000 bushels. Acreage harvested in 1935 was 39,714,000 acres compared with 30,172,000 acres in 1934 and the average of 39,887,000 acres. Farm value of the 1935 oats crop at 27.9 cents per bushel was $333,960,000. The 1934 crop, at 47.9 cents per bushel, was valued at $252,157,000.

BARLEY

Like oats, the 1935 barley crop was near to average. The production was 292,249,000 bushels compared with 118,348,000 bushels in 1934, and the average of 282,841,000 bushels. Acreage harvested was 12,858,000 acres compared with 7,095,000 acres in 1934 and the 12,739,000 acre average. At the farm price of 38.1 cents per bushel, the 1935 crop had a value of $111,271,000; the 1934 crop, at 68.3 cents, had a value of $80,781,000.

GRAIN SORGHUMS

The 1935 production of grain sorghums, the corn crop of the Southwest, was 103,494,000 bushels, 10 per cent above average. The 1935 acreage of 10,470,000 acres was by far the largest ever grown. Average acreage is 6,855,000 acres. In 1935, the crop had a value of $52,674,000. The very short 1934 crop of 34,542,000 bushels had a value of $33,766,000.

THE DAIRY INDUSTRY

By L. S. Richardson

Bureau of Dairy Industry, Department of Agriculture

GENERAL CONDITIONS

The year 1935 witnessed a trend toward better conditions for dairy farmers, but there were also unfavorable carry-over effects from the drought of 1934, particularly the effect on fall pastures and on the condition of many of the herds. Late in the year many farmers in the areas that had gone through the drought were experiencing difficulty in maintaining normal milk flow, and also were reporting more trouble with cows and calves at calving time.

The decline in the number of milk cows, which began in the spring of 1934 as a result of the drought and general shortage of feed, continued in 1935. According to the Bureau of Agricultural Economics the number of milk cows is probably two to three per cent below the number a year ago and 6 per cent below the peak numbers of two years ago. During the last 10 years the number of milk cows per 1,000 people has ranged from a low of 177 cows in 1928 and 1929 to 195 in 1933. The average during this period was 184 cows per 1,000 people, and that is the ratio at present. Population growth will likely be greater proportionately than the increase in number of milk cows in the next year or two, which should make conditions more favorable for dairying.

MILK PRODUCTION

From the spring of 1934 until the spring of 1935, both the number of cows and the production per cow declined in most states, chiefly because of the effects of the drought and the resulting high cost of feed. In the spring of 1935 excellent pastures became available in the principal dairy sections and milk production per cow increased sharply during the summer months and was about the usual per capita supply for that season of the year. After September and until November milk production declined sharply.

MANUFACTURED DAIRY PRODUCTS

Production of manufactured dairy products during the first four months of 1935 showed a decrease of 7.5 per cent under the same months a year earlier, and was the smallest for any of the last five years. After the beginning of the grazing season, manufactured products began a larger-than-seasonal rise. Total production (on a milk equivalent basis) for the first 10 months of the year was about one per cent below the corresponding period of 1934, compared with the 7.5 per cent decrease at the end of April.

The different dairy products varied considerably, however, and for the 10-month period, January to October, inclusive, creamery butter production was about three per cent less than for the same period in 1934; cheese production was one per cent more; condensed milk was about seven per cent more, and evaporated milk 11 per cent more. New high records of evaporated milk production were reached in 1935.

IMPORTS OF DAIRY PRODUCTS

Imports of butter into the United States were heavy during the early part of 1935, but with rising European prices toward the end of the summer further imports were negligible. Imports of butter during the first nine months of 1935 amounted to 21,826,000 pounds or about one per cent of the domestic consumption. Imports in 1934 were only 436,000 pounds, and the record in any one year was 37,454,000 pounds in 1920 when the tariff was six cents a pound.

Imports of Swiss cheese during the first nine months of 1935 and 1934 amounted to 4,619,000 and 5,014,000 pounds respectively, and of all cheese other than Swiss 25,766,000 and 24,602,000 pounds respectively. Swiss cheese was, therefore, the only product of the three of which importation was less this year. This indicates a continuance of the tendency during recent years toward heavy domestic production of cheese of the Swiss or Emmenthal type and its steady displacement of imported supplies.

Along with the general increase in butter and cheese importations in 1935, resulting from the light domestic production in winter and the prevailing high prices, exports of condensed and evaporated milk showed a marked decline. Exports of condensed milk in the first eight months of 1935 amounted to 3,573,000 pounds against 5,560,000 in the corresponding period of 1934. Exports of evaporated milk, most important of all exported dairy products, declined from 26,103,000 to 22,505,000 in the same period.

STOCKS IN STORAGE

Stocks of butter, cheese, condensed and evaporated milk (in terms of milk equivalents) on Oct. 1, 1935, were about 18 per cent heavier than a year earlier, and 25 per cent heavier than the Oct. 1 five-year average (1930-34). On Nov. 1, stocks of these products were only about five per cent heavier than on Nov. 1 a year earlier, and about 13 per cent heavier than the Nov. 1 (5-year) average.

CONSUMPTION

Declines in city consumption of fluid milk and cream were at a slower rate in 1935 than for several years previous. Trade output, or apparent consumption, of creamery butter, cheese, and other manufactured dairy products (in terms of milk) was 3.7 per cent less in the first 10 months of 1935 than in the same period a year earlier. The trend in consumption of manufactured products was upward in September and October, however, consumption being eight per cent higher than in these months a year earlier. Consumption of oleomargarine during the first seven months of this year was 72 per cent over last year.

GOVERNMENT PROGRAMS

The Government through the U. S. Department of Agriculture and various other agencies continued to give attention to the problems of the dairy industry in 1935, both directly and indirectly. Indirectly, as the various programs have improved conditions in other branches of farming, there has been a trend away from milk production into beef cattle and other livestock production. The removal of surplus stocks of butter and other dairy products from commercial channels and their distribution to families on relief has been of direct benefit in maintaining dairy prices, and the removal of thousands of diseased cows should also favor the dairy farmer by reducing potential surpluses.

Under the program to remove surplus dairy products, a total of 137,000,000 pounds of dairy products valued at $21,982,997, has been purchased since the program began in 1933. These products were distributed through relief channels. Butter, cheese, dry skim milk, and evaporated milk purchases amounted to 67,973,254 pounds, 17,970,285 pounds, 13,482,263 pounds, and 37,595,984 pounds, respectively.

Activities of the Agricultural Adjustment Administration with respect to the fluid milk industry have involved the issuance and administration of licenses in a number of milk markets, under which distributors are licensed to engage in the business of handling milk under terms and conditions set forth in the respective licenses. Federal milk licenses are in effect in about 30 fluid milk markets. In accordance with the provisions of the Act of Aug. 24, 1935, marketing agreements and orders now are being issued in place of licenses and substituted for licenses now in effect as the need for such substitution arises. The milk license program is intended to raise and maintain the income of milk producers as much as possible within an open, competitive market structure. These licenses specify the minimum price that distributors may pay for milk used for fluid consumption, and some method of prorating to producers the proceeds of sales to distributors.

The new program for the removal of cattle affected with Bang's disease, tuberculosis, and mastitis has been in operation since July 1934. Since that time, and up to July, 1935 inclusive, a total of 816,000 head of cattle was disposed of. Most of these animals were of dairy breeding and their slaughter has been of substantial benefit to dairymen by preventing heavy losses from disease, and, by obtaining some measure of reduction in production, should provide a basis for higher prices for dairy products.

DAIRY RESEARCH

Leaders in the dairy industry are urging the development of breeding herds from which the average dairyman can obtain herd sires that will consistently beget uniformly high-producing daughters. Experiments by the Bureau of Dairy Industry covering 15 years or more have shown the possibility of developing such herds. For example, 49 young Holstein bulls bred in one of the Bureau's experimental herds have sired a total of 579 daughters in farm herds where they were loaned for service. These daughters averaged 11,227 pounds of milk and 404 pounds of butterfat, or 1,452 pounds of milk and 57 pounds of butterfat more than their dams. Many of the records were made on farms where little or no grain was fed. That the Bureau's system of breeding is producing uniformly good bulls is indicated further by the fact that only five of the 49 young bulls lowered average milk production and only three lowered average butterfat production, and in each case by insignificant amounts.

During the year the Bureau of Dairy Industry began a study in commercial herds and in college and experiment station herds, where production records had been kept continuously for seven or eight years, to determine what progress has been made toward fixing an inheritance for high levels of milk and butterfat production. When all these herds have been analyzed, dairy cattle breeders will have information that should enable them to make more rapid progress in developing ''pure-line production'' herds by concentrating the superior germ plasm of outstanding strains and herds.

XI. AGRICULTURE AND ALLIED INDUSTRIES

DISEASES OF PLANTS

By Howard A. Edson

Bureau of Plant Industry, Department of Agriculture

PREVALENCE OF FOLIAGE DISEASES

Unusual prevalence of foliage diseases characterized the summer of 1935. Peach leaf-curl (*Taphrina deformans*) was almost universal in unsprayed orchards in the Mississippi Valley; anthracnose *(Gnomonia veneta)* of the sycamore and the white oak was severe throughout the host ranges; leaf-blister *(Taphrina* sp.) was reported in epiphytotic proportions on maple, and the leaf spots, mildews, and rusts appeared in abundance throughout the country. Apple scab *(Venturia inaequalis)* was slow in developing because of the relatively small number of initial infections, but the final development was widespread and severe. Unsprayed or inadequately sprayed orchards suffered seriously from the disease with sufficient loss of foliage to threaten the fruitfulness of the trees in 1936. Fire blight *(Bacillus amylovorus)* was prevalent as both blossom blight and twig blight, particularly the latter, on both pears and apples in the Eastern States and in the upper Mississippi Valley. The onion seed crop in both eastern and western areas suffered heavily from downy mildew *(Peronospora schleideni)* losses running as high as 60 per cent of the crop. Barley scab *(Gibberella saubinetii)* over extensive areas in the States of Illinois, Wisconsin, Iowa and Minnesota materially reduced the supply of malting barley available from the year's crop and in many localities the injury was sufficiently severe to cause damage in feeding the grain to hogs. A considerable increase in the amount of oat smut *(Ustilago avenae* and *U. levis)* was observable in various sections of the country where seed treatment had been neglected. Ergot *(Claviceps purpurea)* of small grains and particularly of susceptible wild grasses was unusually abundant.

GRAIN RUSTS

Both leaf rust and stem rust *(Puccinia* spp.) of small grains appeared generally in the southern states where their development was favored by abundant rains and the relatively low temperature of the spring and early summer. The injury done by rusts was largely offset in this region, however, by favorable growing conditions for grains which were well advanced toward maturity by the time the epiphytotic became general and severe. A source of inoculum was built up, however, in Oklahoma, Kansas, and Nebraska, which paved the way for the outstanding crop disaster of the year, the most destructive outbreak of black stem rust in the spring wheat area which has occurred since 1916. Much of the grain crop in the three states mentioned was sown relatively late and consequently was still standing and producing rust spores in great abundance while the succulent spring wheat of the northern Mississippi River Basin was highly susceptible to infection. Favored by cool weather, frequent light rains and a heavy stand of grain, the disease rapidly moved northward as the heads began to fill. Within a few days the bright prospect for an exceptionally fine harvest was wiped out. While the rust was checked by the cessation of rains when the grain was in the dough stage, the advantage thus gained was largely offset by the attendant high temperatures, local strong winds, inadequate supply of ground water, and the increased evaporation from the rusted culms and leaves, so that further growth was abruptly checked and the injury to the immature grain from shriveling was as great as that which might have resulted from the continued activity of the rust. Many fields were completely ruined and were not harvested. The outbreak continued northward into the Canadian Provinces where the most serious damage from wheat rust on record was officially reported. One condition which contributed to the seriousness of the disease is the fact that the important wheat variety, Ceres, extensively grown in the spring wheat area, while resistant to many strains of black stem rust, proved highly susceptible to the particular physiologic forms which this year prevailed in the area for the first time. A recently introduced variety, Thatcher, however, showed a high degree of resistance, and the harvest from the limited area sown is available as seed for larger plantings in 1936.

DUTCH ELM DISEASE

The situation with respect to the Dutch Elm Disease (*Ceratostomella ulmi* [Graphium ulmi]) remains serious but there are many encouraging aspects in the picture. During the year, 6,913 additional cases of the disease were identified, according to Dr. Curtis May of the Dutch Elm Disease Laboratory of the Bureau of Plant Industry at Morristown, N. J. It was discovered in the Norfolk-Portsmouth area of Virginia near the docks where imported elm burl logs were unloaded, and additional infected trees were found at Indianapolis and Cleveland where it was previously known to exist. The number of known loci of infection in the 50-mile zone centering about the port of New York were considerably increased by the systematic scouting vigorously prosecuted during the summer. A new center was found at Brunswick, Md., and the outlying limits of the infected area were extended at other points but these facts need not be interpreted as unduly alarming since, in many cases, they do not indicate further spread of the disease but only fuller information regarding its distribution. Outside the New York-New Jersey-Connecticut area there is little cause for concern and no indication that the disease is becoming established and spreading. All diseased trees have been destroyed promptly on discovery and in the critical area an additional campaign of sanitation and removal of diseased and dying trees has been vigorously prosecuted. As pointed out by Dr. R. P. White of the New Jersey Experiment Station, Federal Plant Quarantines No. 70 and 71, respectively, prevent the further importation of elm burl logs from Europe and the shipment of elm trees or live elm wood from the major infected area; the small European elm bark beetle which is known to distribute the disease is a weak flier and does not travel long distances, and the concentration of the disease is at the inner limits of the zone included within a 50-mile radius of Columbus Circle, not on the margin. These facts encourage the hope that with continued vigilance and adequate financial support the campaign to save the American elm may succeed.

INSECT PESTS

By J. A. Hyslop

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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

During the past year the investigational work on insects, the activities concerned with control and eradication of plant pests, the enforcement of plant quarantines, the functions concerned with the control and eradication of plant diseases, and the investigations on the chemistry of insecticides were consolidated into one organization, the Bureau of Entomology and Plant Quarantine in the Department of Agriculture. Headquarters for many of the major activities of the Bureau are at Washington, with 339 field laboratories and offices within the continental United States, and stations are maintained in Hawaii, the Canal Zone, Puerto Rico, and Mexico, and in three other foreign countries. The amount of money available from regular appropriations to this Bureau for the fiscal year 1936 was $4,821,421.

FRUIT INSECTS

The major problems in connection with this work were investigations to develop control of insect pests with insecticides that would not leave objectionable residues on the fruit at harvest time. The insects involved were the codling moth, the plum curculio, the grape leaf hopper, and other pests attacking deciduous fruits and nuts. Insects attacking dried fruits have attracted considerable attention. The West Indian fruit flies established on Key West, Fla. are the object of an eradication campaign which is apparently successful, as few adults and no immature stages of either of the two species of flies involved were collected during the year. In the date scale eradication campaign being carried on in Arizona and California, much additional acreage was dropped from inspection, being considered free from scale. No Parlatoria scale was found during the year, indicating that the campaign was highly successful.

JAPANESE BEETLE CONTROL

Fifty-eight thousand traps were set out this year in 13 states. These traps located the Japanese beetle in 34 places where it had never been collected previously, eight in North Carolina, 11 in Virginia, one in Maryland, one in Maine, four in West Virginia, and nine in Ohio. In most of these traps the catches were small. The trapping showed heavy gains in previously infested areas in New York, Ohio, West Virginia, Virginia, and North Carolina. Increases in beetle populations were also recorded from Greenville, S. C., Chicago and Detroit.

FOREST INSECTS

During the year the cooperative work with the Federal agencies administering timber land has been one of the most important activities in forest-insect control. Intensive investigations have been carried on with the various insects that might be associated with Dutch elm disease. So far but two insects, *Scolytus multistriatus* Marsh and *Hylurgopinus rufipes* Eich., have actually been found to be vectors of this disease.

GYPSY AND BROWN-TAIL MOTHS

Conditions in general within the gypsy moth barrier zone are materially improved over those existing when this zone was taken over. The light infestation found in the northern part of New Jersey has apparently been cleaned up. Work on the severe infestation in Pennsylvania in the Wilkes Barre-Scranton district is being carried on as an extermination project.

DUTCH ELM DISEASE ERADICATION

The Bureau activities under this project are along two lines: (1) The complete destruction of all known infected elm trees; (2) the removal and destruction of all dead and dying elms likely to harbor the beetles known to transmit this disease. The area now known to be infected by this disease is 3,640 square miles in the major infected area. Outside of this area a few diseased trees have been found in Indianapolis, Cleveland, Norfolk and Portsmouth, Va., and Brunswick, Md.

WHITE PINE BLISTER RUST CONTROL

More extensive areas of white pine were given protection against blister rust in 1934 than in any similar period since the work was begun. The pine area in the United States to be protected totals about 14,200,000 acres and, with the necessary border zone, increases the area to be freed of currants and gooseberries to about 24,800,000 acres. During the calendar year 1935 over 135,000,000 currant and gooseberry bushes were destroyed on 2,760,000 acres of land.

CEREAL AND FORAGE INSECTS

During the fall of 1934 an extensive survey of grasshopper conditions was conducted in cooperation with the 18 states included in the control campaign completed during the summer. This survey indicated a great reduction in grasshopper populations over most of the area. Much of this reduction may be attributed to the success of the campaign. A survey revealed the presence of high overwintering populations of chinch bugs in the East Central States and westward to Iowa, Oklahoma, and Kansas. A special fund was appropriated by Congress for the control of this insect. European corn borer damage to sweet corn along the Eastern Seaboard was extensive. In the one-generation area of western New York, Ohio, and Indiana, adverse climatic conditions have been unfavorable to corn borer increase. Wheat varieties resistant to hessian fly attack have been tested, and practically immune varieties have been found. The hairy vetch bruchid, first discovered in this country in New Jersey in 1931, is now known to be present along the Atlantic Seaboard to South Carolina. In the summer of 1935 in parts of North Carolina this bruchid damaged 50 per cent of the vetch seed crop.

BLACK STEM RUST

During the fiscal year 1935 approximately 18,900 square miles of territory in the north central states were surveyed for barberry, and more than 570,000 bushes were eradicated. The most widespread epidemic of wheat stem rust in recent years occurred this summer. Serious losses developed in western Minnesota and eastern North and South Dakota.

TRUCK CROP AND GARDEN INSECTS

The Mexican bean beetle continues to be the most important insect pest of beans in the United States. A suspension of derris powder in water proved to be a very effective spray for the control of this insect. Early in the year the domestic narcissus-bulb quarantine was revoked. This action was taken because attempts at general eradication of the eelworm and the greater bulb fly had not been successful and because both of these pests have become established in commercial bulb plantings in many states.

COTTON INSECTS

Heavy migrations of the cotton flea hopper to cotton occurred during the first weeks of June 1935. Tests with insecticides indicated that net profits ranging from $9.75 to $12.66 per acre could be obtained from proper treatment. The best insecticide of those tested was one made of one part of paris green to 10 parts of sulphur.

PINK BOLLWORM CONTROL

The outstanding developments of the year in this project were the finding of infestations in several additional counties in northern Florida and western Texas, no recurrence of the insects in the original infested areas of Florida and Georgia, and continued progress in the eradication of wild cotton in southern Florida.

INSECTS AFFECTING MAN AND ANIMALS

At the close of the summer of 1934 heavy infestations by the screw worm occurred in Georgia, Florida, Alabama, Mississippi, and Louisiana, and a few in South Carolina. In the West the infestation joined with the area of normal infestation in Texas and in other southwestern states. Heavy losses occurred in 1934, and in 1935 an extensive cooperative educational and control campaign was put on in South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and southeastern Texas. Approximately 23,000 gallons of pine tar oil and 15,000 gallons of benzol were distributed for the control of the screw worm in this campaign. Investigations carried on during the year on the use of blowfly maggots and the treatment of infected wounds resulted in the discovery that the maggots excrete certain substances into the wound and that one of these substances (allantoin) stimulates healing. This material is now available to the medical profession.

FOREIGN PARASITE INTRODUCTION

Large numbers of importations of parasites of the oriental fruit moth, Japanese and Asiatic beetles, European corn borer, pink bollworm, alfalfa weevil, European pine shoot moth, and of a number of other insects were made during the year. One of the important phases of this introduction work was the elimination of the shipping of living host materials with parasites into the United States from foreign countries.

INSECTICIDE INVESTIGATIONS

The outstanding result of investigations of plant materials with insecticidal properties was the finding of anabasine in the leaves and roots of tree tobacco (*Nicotiana glauca*) of the southwestern states. Anabasine is an alkaloid very similar to nicotine. Two synthetic organic chemicals merit particular attention. They are phenothiazine and phenothioxin. Phenothiazine, an organic sulphur compound, was tested, but results are not conclusive as to the insecticidal value of this material; however, it shows promise of efficiency. Phenothioxin, in preliminary tests, showed marked toxicity to codling moth.

FOREIGN PLANT QUARANTINES

Twenty-four foreign plant quarantines and regulatory orders of the Department prohibiting or restricting the entry of various plants and plant products into the United States, eight domestic quarantines affecting the movement of such materials between the territories of Hawaii and Puerto Rico and the continental United States, and four miscellaneous regulatory measures are enforced through the Division of Foreign Plant Quarantines.

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE PUBLICATIONS, 1935

Circulars

332. General information about the Japanese beetle in the United States.
334. Characters useful in distinguishing larvae of *Popillia japonica* and other introduced Scarabaeidae from native species.
346. Insect parasites and predators of insect pests.
349. Disposal by burial of fruit infested with larvae of the Mexican fruit fly.
351. Notes on the habits of certain coprophagus beetles and methods for rearing them.
353. The Dutch elm disease project: Federal, state and local cooperation.
356. Trapping experiments for the control of the cigarette beetle.
364. Cyanide fumigation of mushroom houses.
365. The camphor scale.
369. Industrial fumigation against insects.
373. The fumigation of fresh fruit to destroy the adult Japanese beetle.
376. New equipment for obtaining host material for the mass production of *Trichogramma minutum*, an egg parasite of various insect pests.

Technical Bulletins

431. A revisional study of the genus *Scolytus* Geoffroy (*Eccoptogaster* Herbst) in North America.
441. The Biology of *Cremastus flavoorbitalis* (Cameron), an ichneumonid parasite of the European corn borer.
444. Studies on the Mexican fruit fly, *Anastrepha ludens* (Loew).
455. The European corn borer and its controlling factors in the Orient.
460. Studies of *Exeristes roborator* (Fab.), a parasite of the European corn borer in the Lake Erie area.
463. Biological and ecological factors in the control of the celery leaf tier in Florida.
477. *Apanteles solitarius* (Ratzeburg), an introduced braconid parasite of the satin moth.
478. The use of carbon disulphide against the Japanese beetle.
486. Cotton bollweevil survival and emergence in hibernation cages in Louisiana.
487. Bollweevil control with calcium arsenate on field plots in

Madison Parish, La., from 1920 to 1934.

501. Relation between the physical properties and chemical components of various grades of geraniol and their attractiveness to the Japanese beetle.

Journal of Agricultural Research

K-253. Studies of derris, nicotine, paris green, and other poisons in combination with molasses in the control of the gladiolus thrips.

K-254. Methods of obtaining emergence of *Tiphia* adults from imported cocoons for use against the Japanese beetle.

K-255. The relation of the sugar content and odor of clarified extracts of plants to their susceptibility to attack by the Japanese beetle.

K-256. Productivity of the camphor scale and the biology of its egg and crawler stages.

K-257. Biology of the camphor scale and a method of predicting the time of appearance of stages in the field.

K-258. Morphology and biology of the wheat jointworm gall.

K-259. Some North American parasites of blowflies.

K-260. *Brachymeria intermedia* (Nees), a primary parasite, and *B. compsilurae* (Cwfd.), a secondary parasite, of the gypsy moth.

K-261. The Mexican bean beetle in Mexico.

K-262. Potato beetle septicemia.

Miscellaneous Publications

201. Traps for the Japanese beetle and how to use them.

220. Directory of the Bureau of Entomology and Plant Quarantine.

226. The tobacco and solanum weevils of the genus *Trichobaris.*

FISHERIES

BY CHARLES E. JACKSON

DEPUTY COMMISSIONER OF FISHERIES, DEPARTMENT OF COMMERCE

FISHING AND MARKETING CONDITIONS

During the fiscal year 1935 the fishery industry lost some of the gains which were made during the previous fiscal year. This has been especially true with the fishermen and distributors of such fishes as haddock, mackerel, halibut, mullet, red snappers, lake herring, and others of the so-called "market" fishes. Partial reports indicate a larger quantity of some of these fishes have entered the market during the past year, but the prices received by the fishermen have been less. By far the greater number of our fishermen are engaged in catching market fishes, and in many instances these fishermen are unorganized.

During the past fiscal year some improvement has been noted among fishermen catching and selling "cannery" fishes, such as salmon, pilchards (sardines), Pacific Coast mackerel, etc., tunas, and others. This may be due to better organization among these fishermen as well as to the fact that canned fish is finding a better demand among consumers. Improvement among the sardine, Alaska herring, and menhaden fishermen, no doubt, has been due to a recent Act of Congress which has brought about a brisk demand in this country for domestically produced fish oils.

TECHNOLOGY

This branch of the Division of Fishery Industries is concerned with the development of improved methods for the preservation of fishery products, the utilization of waste products, improvement of existing mechanical fishery processes, and the discovery of

FISHERIES OF THE UNITED STATES AND ALASKA

Section and year	Fishermen	Fishing Vessels	Fishing Boats	Catch	
	Number	Number	Number	Pounds	Value
New England States, 1933	17,073	595	8,400	499,936,000	$13,486,000
Middle Atlantic States, 1933	8,574	407	3,870	169,753,000	4,811,000
Chesapeake Bay States, 1933	20,142	287	13,429	272,380,000	5,061,000
South Atlantic and Gulf States, 1932	21,560	512	12,849	299,917,000	6,428,000
Pacific Coast States, 1933	18,673	929	6,521	860,161,000	13,988,000
Lake States, 1932	6,932	498	3,159	83,744,000	4,389,000
Mississippi River and tributaries, 1931	15,884	...	14,546	82,383,000	2,897,000
Alaska, 1933	8,656	507	4,218	630,774,000	9,158,000
Total	117,494	3,735	66,992	2,899,048,000	60,218,000

facts on the nutritive value of fishery products. The work during the past year has revealed superior methods for handling, freezing, smoking and warehousing mackerel. Other important researches have developed safe methods for canning aquatic products in home and community kitchens. As to the utilization of by-products, technological research has shown that fish meal and oil of considerably greater commercial value could be manufactured from the waste parts of the fish accruing from the salmon cannery operations. With the ever increasing demand for vitamin-carrying oils, considerable work was done on the vitamin content of oils from various species of fish. These researches have revealed the high vitamin potency of swordfish liver oil, salmon oil, mackerel liver oil, and others. In line with research work to expand markets for fishery products, experiments in the cooking of fish resulted in the publication of a pamphlet containing practical fish cookery recipes.

SCIENTIFIC INQUIRY

Perhaps the most interesting problems that have required the attention of the scientific staff during the past year are: protection of fish at the Bonneville (Oregon) Dam, stream surveys and improvement work in the national forests, and the oyster pest control work.

The Bonneville Dam, as far as fisheries are concerned, is a 72-foot obstruction to the run of salmon in the Columbia River. Fish must be passed over this dam to the spawning grounds above or an industry valued at $10,000,000 and upon which the livelihood of 20,000 people depends will be destroyed. Heretofore, fish have been passed over dams but nothing of this size has ever been attempted, hence the Bureau's engineers and biologists have been busily engaged in devising means to accomplish it. The present plans being incorporated in the dam provide four fish ladders and six hydraulic lifts with their collecting traps. A fish ladder is simply a series of dams each step of which is of such a height that salmon can easily jump it. The hydraulic lift is a device similar in action to a ship lock. The biologists have found that the newly hatched salmon on their migration to the ocean can pass through the turbine wheels of the dam without damage to themselves, but fingerling passes around the obstruction will also be provided.

During the past year the streams of about one-sixth of the area of the national forests have been surveyed and in some cases improved. The purpose of these surveys is to determine what fish, if any, should be stocked in these streams and the number the stream is capable of supporting. The stream improvement project consists of correcting adverse conditions that may exist, either man-made or natural, and the building of small dams to create pools as resting places for fish that the stream may have its maximum supporting capacity for fish. These surveys have occupied the attention of several survey parties of trained biologists, and the CCC (Civilian Conservation Corps) men have assisted in the improvement work.

The oyster pest control work was inaugurated in the spring months with a special appropriation for this purpose. The work is concerned with three pests or enemies of the oyster. In the North Atlantic it is the starfish which is being studied with a view to its control. In the Middle Atlantic region, the oyster drill has been destroying large numbers of oysters. The life history of this drill had previously been studied, and the Bureau aided by relief labor is now applying control measures. In the South Atlantic and Gulf areas the wafer or leech recently has destroyed many oysters. This pest seemingly becomes active at those times when there is a lessening of the fresh water entering the bays and sounds. Bureau scientists are studying its life history to devise means of controlling it during these drought periods.

In addition to the above special activities, the regular continuing investigations concerned with the management and conservation of the important commercial fisheries of the three coasts of the United States and the Great Lakes have been vigorously prosecuted. The program of aquicultural investigations concerned with stocking and hatchery technique has been extended to include management of the fresh water game fish to provide better angling throughout the country.

FISH CULTURE

The progress and accomplishments of this division are best measured by the output of fish and the size of the fish distributed. During the year 5,071,000 fish were distributed as compared with 3,250,000 the previous year. There was also a noteworthy increase in the numbers of the larger sizes distributed. This advance was made possible by the fact that the physical features of the various hatcheries were brought to a high state of efficiency through the assistance of PWA (Public Works Administration), CWA (Civil Works Administration), and CCC both funds and labor being received from these organizations. In many cases the pond areas of the various hatcheries were increased, which permitted not only the hatching of more fish but the holding of the fish until they had attained a larger size.

ALASKA

The primary objectives of the Bureau of Fisheries in Alaska are to conserve the salmon and other fisheries, and to protect and maintain the fur-seal herd of the Pribilof Islands.

Salmon runs of normal proportions were expected in all parts of Alaska in 1935, except in the great red salmon district of Bristol Bay, and such anticipated runs were more than realized in most places. In Bristol Bay only a small run of salmon was anticipated because spawning in the preceding cycle years had not been satisfactory. Restrictive regulations were adopted to allow an escapement of a large portion of the run, and it is confidently expected that the related cycle years of the future will be of normal size.

The fur-seal herd of the Pribilof Islands is by far the largest in the world. This herd, together with others of the North Pacific Ocean, is protected from capture at sea by the Convention of July 7, 1911, between the United States, Great Britain, Japan, and Russia. Under this protection and the careful management of the Bureau of Fisheries experts, this herd has grown from 130,000 in 1911 to 1,550,000 animals in 1935. During these years there have been taken 661,146 fur sealskins for manufacture, varying in the different years from 3,191 in 1911 to 57,296 in 1935. Only the skins of 3-year-old surplus males are taken. The herd under this system has been increasing at the rate of eight per cent annually. The rehabilitation of the Pribilof Islands fur-seal herd is an outstanding example of what may be accomplished in conservation through international cooperation.

XI. AGRICULTURE AND ALLIED INDUSTRIES

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. of Nurserymen, P. O. Box 355, Louisiana, Mo.

American Country Life Assn., 105 E. 22nd Street, New York City.

American Farm Bureau Assn., 58 E. Washington St., Chicago, Ill.

American Forestry Assn., 1713 K St., N. W., Washington, D. C.

American National Livestock Assn., 515 Cooper Bldg., Denver, Col.

American Ornithologists' Union, 1939 Biltmore St., N. W., Washington, D. C.

American Phytopathological Society, Bureau of Plant Industry, Washington, D. C.

American Poultry Assn., Fort Wayne, Ind.

American Society of Agronomy, Room 25, Hall of Agriculture, Iowa State College, Ames, Ia.

American Society of Animal Production, University of Nebraska, Lincoln, Neb.

American Society of Equity, 311 Daily Star Bldg., Minneapolis, Minn.

American Society for Horticultural Science, P. O. Box 299, Geneva, N. Y.

American Society of Mammalogists, Johns Hopkins Medical School, Baltimore, Md.

American Veterinary Medical Assn., 716 Bok Bldg., Detroit, Mich.

Association of Land-Grant Colleges and Universities, Newark, Del.

Boyce-Thompson Institute for Plant Research Inc., 1086 N. Broadway, Yonkers, N. Y.

Farm Women's National Congress, Clarksville, Ia.

Institute of American Meat Packers, 509 S. Wabash Ave., Chicago, Ill.

International Farm Congress of America, Continental Bldg., Kansas City, Mo.

Izaak Walton League of America, The, 214 W. Huron Street, Chicago, Ill.

Jewish Agricultural Society, Inc., 301 E. 14th Street, New York City.

Middle Atlantic Fisheries Assn., Inc., 203 Front Street, New York City.

National Assn. of Audubon Societies, 1775 Broadway, New York City.

National Board of Farm Organizations, 1731 I Street N. W., Washington, D. C.

National Dairy Council, 111 N. Canal St., Chicago, Ill.

National Educational and Cooperative Farmers' Union of America, 1731 I Street N. W., Washington, D. C.

National Fertilizer Assn., 676 Investment Bldg., Washington, D. C.

National Grange of the Patrons of Husbandry, 630 Louisiana Ave., N. W., Washington, D. C.

National Highways Protective Society, 7 Dey St., New York City.

National Livestock and Meat Board, 407 S. Dearborn St., Chicago, Ill.

National Poultry Council, Davisville, R. I.

People's Lobby, Inc., 113 First St. N. E., Washington, D. C.

Society of American Florists and Ornamental Horticulturists, 480 Lexington Ave., New York City.

Society of American Foresters, 810 Hill Bldg., 839 17th Street, N. W., Washington, D. C.

United States Livestock Sanitary Assn., 33 Livestock Exchange Bldg., Wichita, Kan.

Vegetable Growers' Assn. of America, c/o F. L. Allen Co., Philadelphia, Pa.

DIVISION XII

MINERAL INDUSTRIES

GOLD AND SILVER

By Charles W. Henderson

U. S. Bureau of Mines, Department of the Interior

GOLD AND SILVER IMPORTS

The most interesting feature with respect to gold and silver in 1935 was the heavy gold and silver imports into the United States. In 1935, $1,740,979,000 worth of gold (calculated at $35.00 per fine ounce) entered the country, compared with $1,186,-

GOLD MINE PRODUCTION IN THE UNITED STATES, BY STATES, 1935

	1934 Fine ounces	1935 Fine ounces	Increase (+) or decrease (−)		Value	
			Fine ounces	Per-cent	1934 (at $34.95 per ounce)	1935 (at $35.00 per ounce)
Western States and Alaska						
Alaska	*537,282	453,294	−83,988	−16	$18,778,000	$15,865,290
Arizona	167,024	226,500	+59,476	+36	5,837,493	7,927,500
California	719,064	869,400	+150,336	+21	25,131,284	30,429,000
Colorado	324,923	351,347	+26,424	+8	11,356,070	12,297,145
Idaho	84,817	83,800	−1,017	−1	2,964,361	2,933,000
Montana	97,446	147,850	+50,404	+52	3,405,736	5,174,750
Nevada	144,275	178,800	+34,525	+24	5,042,417	6,258,000
New Mexico	27,307	33,560	+6,253	+23	954,380	1,174,600
Oregon	33,712	51,800	+18,088	+54	1,178,220	1,813,000
South Dakota	486,119	563,952	+77,833	+16	16,989,858	19,738,320
Texas	359	622	+263	+73	12,538	21,770
Utah	136,582	184,950	+48,368	+35	4,773,524	6,473,250
Washington	8,302	9,900	+1,598	+19	290,149	346,500
Wyoming	4,871	4,112	−759	−16	170,254	143,920
	2,772,083	3,159,887	+387,804	+14	$96,884,284	$110,596,045
Eastern States						
Alabama	2,781	2,262	−519	−19	$97,186	$79,170
Georgia	970	994	+24	+2	33,898	34,790
North Carolina	509	562	+53	+10	17,779	19,670
Pennsylvania	623	600	−23	−4	21,774	21,000
South Carolina	642	1,065	+423	+66	22,439	37,275
Tennessee	455	425	−30	−7	15,902	14,875
Virginia	667	477	−190	−28	23,315	16,695
	6,647	6,385	−262	−4	$232,293	$223,475
Central States						
Michigan	59	....	−59	......	$2,049	....
Philippine Islands	*332,974	*430,655	+97,681	+29	$11,637,441	$15,072,925
Puerto Rico	57	64	+7	+12	1,992	2,240
	333,031	430,719	+97,688	+29	11,639,433	15,075,165
Total	3,111,820	3,596,991	+485,171	+16	$108,758,059	$125,894,685

* Refinery receipts.

671,000 in 1934 (using same value per ounce). In 1935, silver imports were more than triple that of 1934, owing to heavy Treasury Department buying under the Silver Purchase Act of 1934. In 1935, $354,531,000 (at varying prices per fine ounce) worth of silver entered the country, as compared with $102,725,000 (also at varying prices per ounce) in 1934. The Secretary of the Treasury on Jan. 17, 1936 announced that purchases of silver to bolster its price amounted to 835,112,000 fine ounces through Dec. 27, 1935. The daily statement of current assets and liabilities of the United States Treasury for Dec. 31, 1935 shows assets of: gold, $10,122,880,617; silver, $576,862,156, silver dollars $508,681,692, total silver $1,085,543,848.

GOLD

Considering the 69 per cent increase ($20.67 to $35.00 per fine ounce) in the value of gold that resulted from

ANALYSIS OF CHANGES IN MONETARY GOLD STOCK OF THE UNITED STATES

(*Federal Reserve Bulletin*)

(In millions of dollars)

Year or month	Gold stock at end of year or month	Increase in gold stock	Net gold import	Net release from earmark[1]	Other factors[2]
	$1 = 25—8/10 grains of gold 9/10 fine; i.e., an ounce of fine gold = $20.67				
1932	4,226	52.9	−446.2	457.5	41.6
1933	4,036	−190.4	−173.5	−58.0	41.1
1934—January	4,033	−2.1	−2.8	12.2	−11.6
	$1 = 15—5/21 grains of gold 9/10 fine; i.e., an ounce of fine gold = $35				
February	7,438	3,405.0	452.6	68.7	2,883.8
March	7,695	256.8	237.3	−0.8	20.3
April	7,757	61.5	54.7	−1.1	7.9
May	7,779	22.4	33.6	0.5	−11.6
June	7,856	77.1	63.7	1.0	12.5
July	7,931	74.4	52.3	0.6	21.4
August	7,978	47.4	37.2	−1.1	11.2
September	7,978	.4	−18.7	2.4	16.6
October	8,002	23.5	10.8	.3	12.4
November	8,132	129.9	120.9	−.1	9.1
December	8,238	106.2	92.1	.1	14.1
Year	8,238	4,202.5	1,133.9	82.6	2,986.1
1935—January	8,391	153.3	149.4	1.1	2.8
February	8,527	135.3	122.8	.2	12.3
March	8,567	40.4	13.0	−.7	28.1
April	8,710	143.4	148.6	−2.3	−3.0
May	8,858	148.1	140.0	−1.5	9.6
June	9,116	257.1	230.4	1.0	25.8
July	9,144	27.9	16.2	−.4	12.1
August	9,203	59.5	46.0	1.4	12.2
September	9,368	165.0	156.7	1.0	7.3
October	9,693	325.2	315.3	−1.9	11.8
November	*p*9,920	*p*226.6	210.6	0.6	*p*15.5

p Preliminary.

[1] Gold released from earmark at Federal Reserve Banks less gold placed under earmark (with allowance when necessary for changes in gold earmarked abroad for account of Federal Reserve banks).

[2] Figures are derived from preceding columns and indicate net result of such factors as domestic production, movements into and out of non-monetary use, imports and exports that do not affect gold stock during the month or year, and increment resulting from reduction in weight of gold dollar.

Government decrees and legislation between Aug. 9, 1933 and Jan. 31, 1934, and the continuance of the $35.00 price throughout 1935 (and omitting all other factors of gold production), the average weighted price of $34.95 per fine ounce for the year 1934 as compared with $25.56 in 1933 (37 per cent increase) resulted in a 21 per cent increase in quantity and a 65 per cent increase in value in 1934 over 1933 for United States gold production. The increase of production for 1935 over 1934 (price per ounce practically the same for both years) was about 16 per cent in quantity and 16 per cent in value. The increase of production for 1935 over 1933 was 40 per cent in quantity and 92 per cent in value. The increase of production in 1935 over 1932 was 40 per cent in quantity and 137 per cent in value.

SILVER

Producers of newly mined silver in

MINE PRODUCTION OF SILVER IN THE UNITED STATES, BY STATES AND REGIONS, 1934–35, IN TERMS OF RECOVERED METAL

State or Territory	1934 (Fine ounces)	1935 (Fine ounces)	Increase or decrease		Value	
			Fine ounces	Per-cent	1934 at $0.646 + per ounce	1935 at $0.738 per ounce
Western States and Alaska						
Alaska	*168,868	203,465	+34,597	+20	$ 109,167	$ 150,157
Arizona	4,448,474	6,375,000	+1,926,526	+43	2,875,781	4,704,750
California	844,413	1,117,700	+273,287	+32	545,883	824,863
Colorado	3,475,661	4,605,845	+1,130,184	+33	2,246,892	3,399,114
Idaho	7,394,143	10,150,000	+2,755,857	+37	4,780,052	7,490,700
Montana	4,006,468	9,370,000	+5,363,532	+134	2,590,040	6,915,060
Nevada	3,057,114	4,280,000	+1,222,886	+40	1,976,316	3,158,640
New Mexico	1,061,775	1,052,900	−8,875	−1	686,400	777,040
Oregon	46,560	112,000	+65,440	+141	30,099	82,656
South Dakota	99,741	142,513	+42,772	+43	64,479	105,175
Texas	854,442	976,900	+122,458	+14	552,367	720,952
Utah	7,111,417	9,133,900	+2,022,483	+28	4,597,280	6,740,818
Washington	44,120	50,900	+6,780	+15	28,522	37,564
Wyoming	710	793	+83	+12	459	585
	32,613,906	47,571,916	+14,958,010	+46	$21,083,737	$35,108,074
Eastern States						
Alabama	361	395	+34	+9	233	291
Georgia	48	75	+27	+56	31	55
New York	....	21,750	+21,750	......	....	16,051
North Carolina	9,710	7,021	−2,689	−28	6,277	5,181
Pennsylvania	6,230	4,600	−1,630	−26	4,027	3,395
South Carolina	487	177	−310	−61	315	131
Tennessee	61,148	34,119	−27,029	−44	39,530	25,180
Virginia	103	63	−40	−39	67	46
	78,087	68,200	−9,887	−13	$50,480	$50,330
Central States						
Illinois	310	3,147	+2,837	+915	200	2,323
Michigan	529	....	−529	......	342	....
Missouri	63,066	101,024	+37,958	+60	40,770	74,556
	63,905	104,171	+40,266	+63	$41,312	$76,879
Philippine Islands	*226,524	*303,604	+77,080	+34	146,440	224,060
Puerto Rico	11	8	−3	−27	7	6
	226,535	303,612	+77,077	+34	$146,447	$224,066
Total	32,982,433	48,047,899	+15,065,466	+46	$21,321,976	$35,459,349

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[1] Refinery receipts.

the United States in 1935 began the year under the stimulus of the government price of $0.646464+ (one-half of the coinage value of $1.2929-292929+). Acting under the President's proclamation of Dec. 21, 1933 and the silver Purchase Act of 1934, the Secretary of the Treasury on April 10 raised the price paid to $0.7111 (55 per cent of $1.292929+) and on April 24 to $0.7757 (60 per cent of $1.292929+). Silver produced in the United States and the Philippine Islands increased from 32,982,433 ounces in 1934 to 48,047,899 ounces in 1935, an increase of 46 per cent. The value of the 1934 production at $0.-646+ per ounce was $21,321,976 and the value of the 1935 production at the weighted average of $0.738 was $35,459,349, an increase of $14,137,-373, or 66 per cent. Production of silver in the United States and the Philippines in 1933 was 23,317,159 ounces, valued at $0.35 per ounce, at $8,161,006. The increase in 1935 over 1933 was 106 per cent in quantity and 334 per cent in value.

SILVER QUOTATIONS, NEW YORK AND LONDON, MONTHLY AVERAGE, 1935 AND ANNUAL AVERAGE, 1924-1935

(Handy & Harman, New York)

1935	Monthly Average		Annual Average		
	New York Official (cents)	London Spot (pence)	Year	New York Official (cents)	London Spot (pence)
January	54.418	24.584	1935	64.273	29.952
February	54.602	24.818	1934	47.973	21.229
March	59.048	27.380	1933	34.737	18.144
April	67.788	30.986	1932	27.892	17.843
May	74.356	33.865	1931	28.701	14.594
June	71.940	32.346	1930	38.154	17.666
July	68.216	30.500	1929	52.993	24.459
August	66.366	29.476	1928	58.176	26.746
September	65.375	29.255	1927	56.370	26.047
October	65.375	29.368	1926	62.106	28.686
November	65.375	29.284	1925	69.065	32.091
December	58.420	25.563	1924	66.780	33.969

IRON AND STEEL

By Edwin F. Cone

Editor, *Metals and Alloys*

PROGRESS IN RECOVERY

General.—When the review of this subject was written a year ago, it was stated that, when the history of the American iron and steel industry for 1934 should be written, a feature that should be emphasized would be its gradual recovery over 1933. The same statement holds good for 1935. Recovery has continued from the low point of the depression in 1932, and substantial progress toward normal operations was made.

Ingot Output.—A year ago it was emphasized that there was considerable expansion each week in steel ingot production during the last two months of 1934. The same tendency, only in a higher degree, characterized the history of the closing period of 1935. In general, output reached the largest totals since 1930 in both pig iron and steel ingot output.

Comparative Production.—Statistics furnish the best picture of the progress in recovery, not only in 1935 but in other years. The record for a number of years, with productions for 1935 estimated, is as follows in gross tons:

Year	Pig Iron	Steel
1935..........	21,100,000	34,000,000
1934..........	15,850,000	25,625,000
1933..........	13,312,000	22,894,000
1932..........	8,686,000	13,680,000
1931..........	18,426,000	25,946,000
1930..........	31,752,000	40,699,000
1929..........	42,614,000	56,433,000
1921..........	16,688,000	19,783,000
1913..........	30,966,000	31,301,000
1898..........	11,774,000	8,930,000

A study of these data shows that, judged on a production basis, the extent of the recovery during 1935 was considerably larger and more impressive than that made in 1934 over 1933. Compared with the low point in 1932, when output was decidedly less than in the milder depression of 1921, the record made in 1935 was quite satisfactory and of about the same proportions as the recovery during 1933. But the industry has still a good deal of ground to recover before it attains even the volume in 1930 and still more so if the record outputs of 1929 are considered.

Indications of Increased Demand.—It is generally felt that 1936 will reveal still further progress in a return to normal operations. The belief is quite universal that, because of or in spite of the New Deal, depending on one's political leanings, a return to prosperity is sure to eventuate, though it will probably be slow. There are indications that the railroads are coming into the market and that there will be a large demand from the heavy industries.

The Automobile Factor.—An important factor in the recovery of the steel industry in 1935 was undoubtedly the large demand for automobiles. This industry had in 1935 its best year in some time. Then, too, it must be emphasized that the moving forward of the annual automobile show from January to November was a vital factor in demand for steel in the closing weeks of the year.

INVALIDATION OF NRA

Probably the most important event in the history of the steel industry for 1935 was the adverse decision of the Supreme Court on the NRA (National Recovery Administration). From the beginning of this new Government agency, the steel industry cooperated with the Government. With painstaking energy and at no small expenditure of time and money, leaders in the industry almost without exception worked to form a Steel Code of Fair Practice. This was established in 1933 and it was generally acknowledged to have been satisfactory, to have been a benefit to the industry and to have improved marketing conditions as well as those of labor. The smashing of the NRA, while it did away officially with the Code, did not entirely remove it as a rule of action. It has remained voluntarily in effect in many respects. It may be safely said, however, that a reinstatement of the NRA or anything just like it would be stoutly resisted.

ALLOY STEEL PRODUCTION

Some interesting data have been compiled showing the trend in alloy steel production in 1934. Data for 1935 will not be available until May or June, 1936. The following table, based on statistics of The American Iron and Steel Institute, shows the trend in recent years. The data are in gross tons:

	Alloy Steel	Per Cent of Total Steel
1929..........	3,957,207	7.01
1930..........	2,443,311	6.00
1931..........	1,455,913	5.61
1932..........	798,604	5.54
1933..........	1,547,183	6.66
1934..........	1,612,275	6.19

It can thus be seen that, despite the depression, the demand for alloy steels has kept up remarkably well. As against a record in 1929 of 7.01 per cent alloy steels of the total steel output, the percentage in 1933 was 6.66 per cent and in 1934 it was 6.19 per cent with a drop to only 5.84 per cent in the low year of the depression. Undoubtedly the trend in industry is toward the greater use of alloys and alloy steels.

In alloy steels made in electric furnaces a new record was made in 1934. The 299,246 gross tons of electric alloy steels in 1934 was 19.18 per cent of the total alloy steels. In 1933 this percentage was 19.11 per cent. This trend was undoubtedly due largely to the greater use of the stainless and heat-resisting steels which are all made in electric furnaces. The future has still greater demand in store. Both 1935 and 1936 will show increased production figures for the alloy and the stainless steels.

METALLURGICAL RESEARCH

Progress.—Research in metallurgy in the large research laboratories of the steel and alloy companies and in other large organizations went on vigorously in 1935. New alloys, processes and so on were developed and old ones were perfected, altered or pushed further along. There is no distinct dividing line, such as a year to measure this progress; it is going on all the time.

Lighter Steels.—A development of wide interest in 1935 was the perfection and putting on the market of what are usually called ''low-alloy, high tensile'' steels. These are difficult to explain briefly. They are really low carbon steels of the plain ''garden'' variety to which certain alloying metals have been added to give them strength. The idea is to substitute these new steels for the other older steels in building railroad cars, trucks, ships and so on, so that a lighter car or unit is obtained without any sacrifice of strength. By building such cars of such a steel a greater pay-load results. More materials can be carried or transported with less dead weight to haul.

"Cor-Ten." — This development started about two years ago. One of the first of these steels was developed by the United States Steel Corporation. It is called ''Cor-Ten'' and is a low-carbon silican-chromium-phosphorus steel. Later, principally during 1935, most of the large and some of the small steel companies developed similar steels until now a sizable variety is available. The companies which have entered this field are, beside the Steel Corporation, the Republic Steel Corporation, the Alan Wood Steel Co., the Central Iron and Steel Co., the Youngstown Sheet and Tube Co., the Granite City Steel Co., the Jones and Laughlin Steel Corporation, the Continental Steel Corporation, the Inland Steel Co., and the American Rolling Mill Co. Thus the galaxy to choose from is imposing, but the prospective consumer is bewildered by the many claims for the various steels. Undoubtedly they all have merits but it will narrow down to a survival of the fittest as well as of the cheapest.

Other Developments.—There have been other developments of a technical nature which it is not necessary to mention here. It is certain that the use of metals and alloys is expanding rapidly not only in the steel or ferrous field but also in the non-ferrous realm as witness the development of the light magnesium alloys as well as new aluminum products. Progress in every line of endeavor is the watch word of the industry.

COAL AND COKE

By R. Dawson Hall

Engineering Editor, *Coal Age*

GENERAL

Notable among the events of 1935 in the coal industry are the termination of the NRA with the Supreme Court decision, May 27; the passing of the Bituminous Coal Conservation Act (Guffey-Snyder coal-control bill) signed by the President, Aug. 23, and the determination and assignment in September of the projects of the Bituminous Coal Research, Inc., the research organization of the National Coal Association.

BITUMINOUS COAL CONSERVATION ACT

An excise tax of 15 per cent on the sale price of coal at the mines is laid by this Act on the production of all bituminous coal with the provision that all companies accepting the requirements of the Bituminous Coal Code and complying therewith shall be entitled to a drawback of 90 per cent of the tax. This Act, believed by many to be unconstitutional, aroused much opposition from some operators and the hearty cooperation of others. Its constitutionality was promptly attacked by J. W. Carter, president of the Carter Coal Co., who sought an injunction to prevent the company from accepting the provisions of the Act. Meantime, C. H. Clark, a stockholder in the R. C. Tway Coal Co., sought a similar action requiring his company to accept the code. By the end of the year, mining companies representing about 70 per cent of the production agreed to comply with its provisions, arguing that it should be given a trial and that it was safer inside the fold than outside. Over 100 companies applied to the courts for injunctions or restraining orders, and at the close of 1935 over 75 companies had obtained such orders which permit them to pay only 1½ per cent of the value of the coal until the constitutionality of the law is determined—the same sum as is paid by operators accepting the code's provisions.

BITUMINOUS COAL RESEARCH

On behalf of Bituminous Coal Research, Inc., Pennsylvania State College will study the hydrogenation of bituminous coal to oil and Battelle Memorial Institute the characteristics of coals for underfeed stokers, the oil or chemical treatment of coal for dustproofing and the effect of oil treatment of mine-run on its washability.

MINE LABOR CONDITIONS

Hours and Wages.—Conferences on a new wage agreement opened Feb. 18 at Washington, D. C., with demands on the part of the union for a 6-hr. day, a 5-day week with small reservations, overtime at time and one-half and double time for Sundays and legal holidays, wage increases of 13c per ton to cover both cutting and loading, 50c a day for inside and outside day laborers, monthly wages proportionate, 25c per ton for pick mining and 20 per cent for yardage, deadwork and work on conveyors and mechanical loaders. Negotiations dragged along without an agreement, and on March 30 the wage contract was extended from March 31 to June 16 on the request of the National Industrial Recovery Board. Other extensions followed of short duration, but a strike was called Sept. 22, which was followed on Sept. 27 by the signing of an agreement to become effective Oct. 1. In this pact the 7-hr. day was conceded. Day and monthly men received 50c a day increase, except miners on mechanical loading and conveying equipment, to whom an advance of 70c a day was accorded. Combined shortwall cutting and loading rates, also pick-mining rates, were raised 9c per ton, and yardage and deadwork 10 per cent with some exceptions. The contract runs until March 31, 1937. However, the agreement covered only part of the Appalachian field. Most of the districts throughout the country came in later.

Peace in Anthracite Region.—In the anthracite region, an assurance of peace has been afforded by the complete disbandment of the Anthracite Miners of Pennsylvania, the rival of the United Mine Workers of America. C. F. Huber was appointed, by the Anthracite Institute, administrator of the anthracite industry. He is not to control or fix prices but to eliminate unfair practices. All prices, terms of sale and sales policies must be filed with the Institute by all companies affiliated with that association.

"Bootlegging" of Coal.—In the anthracite region, ''bootlegging'', or stealing of coal from the lands of the coal companies, has reached large proportions, 3,000,000 tons annually; a large percentage of the coal reaching towns and cities in New Jersey and Pennsylvania is of this sinister origin.

The coal pitches to the surface, and along the outcrop, drifts and shafts are started by miners and the coal is loaded into trucks for the market. Local and state authorities refuse to act and judges and juries to convict. On complaint to borough authorities the companies are told that they may as well permit bootlegging, for otherwise their taxes will be raised to pay relief, and the companies are the principal taxpayers. The retail dealers called on Governor Earle, of Pennsylvania, to take action.

ARSENIC CONTENT OF BITUMINOUS COAL

Investigations by E. S. Hertzog, U. S. Bureau of Mines, shows the total arsenic, figured as arsenic trioxide, in American bituminous coals runs from 0.0001 to 0.0021 per cent excluding one sample having 0.014 per cent. The volatile arsenic, similarly figured, runs from nothing to 0.0011 per cent. This compares quite favorably with foreign bituminous coals and even with British anthracite. Certain Canadian brewing practices demand a low arsenic content in the coal used. A committee formed by the American Institute of Mining and Metallurgical Engineers and the American Society of Mechanical Engineers promptly decided that relative values of different grades of coal could not be determined, as the use value to any consumer depended on the combustion equipment in which the coal is to be used. Some desired a fuel of a certain size and with certain caking characteristics. Some sought coal the ash of which fused at high temperatures and others a coal with an ash that fused at a low temperature.

MECHANICAL AND TECHNICAL DEVELOPMENTS IN MINING

As all the operations of mining are now performed mechanically, progress now consists mainly in improvements of the mechanisms, in the adaptation of the mines to their efficient use and in the degree to which the mechanisms already introduced are employed. No important changes have been made in any of these directions, though one notable all-conveyor installation has been added in the anthracite region and the cutting of thin kerfs in bituminous mines is making progress, the coal being described as being ''sawn'' rather than ''cut.'' These thin cuttings reduce the quantity of slack coal produced.

In July the Federal Housing Administration expressed its readiness to make credit advances to the mining industry. Some companies have accepted this offer, but there has not been any great disposition to purchase machinery under its terms. At first, underground equipment was not included in the types of machinery specified, but later this extension was made, and the effect of the widening of the provisions remains to be seen.

With streamlining on every tongue and with ventilation almost everywhere costly and frequently ineffective and insufficient, much effort is being made to bring it into line with the principles of aerodynamics. Especially is the fan the subject of controversy, its ability to ventilate a long and resistant split by reducing the air to other splits being a desideratum which all fans do not afford.

Operators are impounding water in the mines so that air cannot reach the pyrite in the coal and produce acid. Thereby they have been able not only to improve the effluent to the streams so that it will not destroy fish, concrete, pipes and boilers but also have been enabled to prevent damage to their own pipe lines and pumps. Unfortunately, many operators, alive to this advantageous means of preventing corrosion, fear to close large areas of their mines because methane will collect in these spaces and if released by any mischance may cause a terrific explosion. Moreover, in many states, sealing of parts of operating mines is prohibited by law. For this reason, sealing in active mines progresses only slowly. Meantime, the U. S. Health Service, with $3,500,000 allocated from WPA funds for work in Pennsylvania, West Virginia, Ohio, Maryland, Kentucky, Tennessee, and Indiana, is sealing abandoned mines against air in a program larger than that undertaken at the close of 1933 and early in 1934.

At the Mark Twain mine of the Huntsville-Sinclair Mining Co., a 4-cu. yd. shovel is loading overburden into a car on an inclined track carried by a caterpillar tractor equipped with a steel tower and light boom to raise or lower the upper end of the track. By this means the overburden can be carried up and back with light and relatively inexpensive equipment. However, larger and larger shovels are in operation—one with a 32-cu.yd. and one with a 30-cu.yd. bucket—with another 30-cu.yd. shovel already ordered. Montana, with its phenomenally easily stripped lignite, hung up a record in 1934, just reported, of 75.47 tons per man-day. Alabama, with greater difficulties, is obtaining per man-day only 4.17 tons.

No important developments in high- or low-temperature carbonization occurred during the year, but the plant of the Pittsburgh Coal Co. installed a dedusting unit to provide fine material for its low-temperature carbonization (Disco) plant and will bring the production up to 300 tons daily. Experiments are being conducted to ascertain the uses to which the byproducts may be put. Gilbert Thiessen ascertained that about 45 per cent of the organic sulphur and about 60 per cent of the pyritic sulphur remain in the coke on coking coal, but, because of the loss of "volatile matter," the sulphur in the coke is 80 per cent that of the coal from which the coke was made. Fusain when coked shows high retention of sulphur, probably because of presence of calcite and high pyrite percentage.

Spore-rich bright coal has been found, by G. C. Sprunk and Reinhardt Thiessen, to be high in hydrogen, volatile matter and heat value as compared with other coal from the same cross-section. Splint coal, if it is rich in spores, has as much volatile matter as anthraxylon or bright coal, but the semi-opaque or brown matter of splint coal has less volatile matter than anthraxylon and still less than spore-rich bright coal. Such brown matter swells but little in the coking process and has a slightly lower heat value than the anthraxylon from the same bed. Fusain is lower in hydrogen, nitrogen and oxygen, much lower in volatile matter and higher in carbon than the coal with which it is associated.

J. D. Davis and Stuart Auvil report that when coal is coked at a temperature of 900 deg. C. with a free space above the coal level, the cracking which occurs in the passage of the gases through the interstices in the hot coke is accelerated in the free space, increasing the pitch and aromatic solids and decreasing the neutral oils, aromatic liquids and tar acids. Light oil can be increased 27 per cent by increasing the time of exposure in the free space from 1.3 seconds for a 1-in. free space to 9 seconds for a 6-in. free space and benzene yield 1.4 to 2.7 gal. per ton. Paraffins were eliminated by the increase in free space.

NON-FERROUS METALS

By Walter Renton Ingalls

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GENERAL

Since the imposition of a tariff of 4c. per lb. on importation of copper into the United States it has become necessary to treat of this metal, as in the instances of lead and zinc, in two positions, *viz.* ex-U.S.A. and in-U.S.A. Among these metals there is still, however, a grand difference in that while we can not economically export lead and zinc we can still competitively offer domestic copper abroad. As to tin we do not produce any, wherefore consideration of the American position is solely as that of a consumer.

Statistics show that we still import a good deal of copper. This is, however, mainly rough copper brought hither for refining, the product of which is subsequently exported, and appertains, therefore, to the foreign position rather than to the domestic.

In this contribution all references to quantities mean tons of 2,000 lb. except as to tin for which the expressions are in tons of 2,240 lb. Attention should also be drawn to the difference in statistical technique, which causes consumption of copper and lead ex-U.S.A. to be calculated in terms of new metal whereas in the United States we account for the use of new metal plus re-refined old metal. The same difference does not exist as to tin and zinc.

Inasmuch as this article is being composed in December, 1935, and none of the December statistics will be available until near the end of January, 1936, while some of the revisions will not be possible until about the end of April, it has been necessary to express 1935 totals as approximations or probabilities, but our statistical accounting is now so well organized that late in a year we may summarize in advance without material error.

In the following text but little need be said in respect of stocks for we have no complete accounting as to any of the metals, and incomplete data may be misleading. As of Jan. 1, 1935, we could account for 263,000 tons of refined copper and 109,000 tons of rough copper ex-U.S.A. These quantities have probably decreased during 1935. We could account for 260,000 tons of refined lead and 121,000 tons of spelter. As to lead, certainly, and zinc, probably, stocks have been reduced during 1935. All of these accountings include large quantities of metals in process and in transit, which constitute a permanent lock-up.

As of Jan. 1, 1935, in the United States we could account for 341,000 tons of refined copper and 150,000 tons of rough copper; 227,000 tons of refined lead and 93,000 tons of lead in process, in transit, etc; and 120,000 tons of spelter. Of all of these stocks there has been more or less reduction in 1935. It may be observed that of the copper stock the rough copper is a permanent lock-up, and that of the total stock a certain portion correlates with the smelting and refining of foreign copper in bond and, therefore, is associated with the foreign position rather than with the domestic.

The commercial effect of stocks, especially when they are held by producers who are able to carry them, is commonly exaggerated. In such hands they may represent merely a transfer of metal from underground to overground for good economic reasons. We are prone to overlook that a good deal of what is carried as stock is not immediately available owing to geographic position, or is locked up in long transits. We may entertain the opinion, moreover, that we often do not carry stocks of sufficient magnitude to be adequate commercial equalizers. Accumulation or depletion of stocks are indicative of production and consumption being out of balance. In a declining market a larger accumulation may be an incubus, but we have seen in 1935, and not for the first time, that accumulations have not destroyed buoyancy or prevented prices from rising.

COPPER

Physical features of 1935 were abandonment of the Granby mines in British Columbia, increasing production in Russia, completion of a railway to mines in Asiatic Turkey and discovery of new ore deposits in the north of Sweden. Rhokana began production of electrolytic copper in Rhodesia. Both Rhokana and Roan Antelope paid initial dividends. Production of Mufulira began to attain large proportions.

Prices.—The domestic price for copper under the NRA (National Recovery Administration) code was 9c., delivered in Connecticut, at the beginning of 1935, which corresponded with 8.775c. f.o.b. refineries at New York. The price at European ports was about 6.75c. Following the agreement to curtail production ex-U.S.A. the European price gradually rose to about 8c. With the death of the Blue Eagle about the end of May the American price collapsed to 8c. and was followed by one very large transaction at 7¾c., but when it became understood that the large transaction was consequential upon some special conditions the market stabilized at 8c. A large demand from fabricators beginning in July led to successive advances to 9¼c., which was the quotation at the middle of December. In the meanwhile real increase in consumption abroad advanced the price to 9.15c., c.i.f. base ports, but during October this weakened to 8.75c. which was approximately the price prevailing during the remainder of the year.

Production.—American mine production was held at about 26,000 tons per month under code quotas, which permitted the absorption of about 12,000 tons per month of old copper, refined, and left room for some drafts on accumulated stocks. With the annulment of the code, producers continued for several months at their previous rates, but during the fourth quarter they stepped up to about 42,000 tons per month. The domestic output for the year will probably be about 365,000 tons *vs.* 232,000 in 1934.

Outside of the United States the production was allowed to increase recklessly, especially in Chile, Katanga and Rhodesia, with the result that a total rate of 123,000 tons was attained in April, which was far in excess of any rate of consumption in reality or in sight.

This ominous situation led to a conference by producers in New York in March, which had been under consideration during six months previously. The conference resulted in a composition for curtailment of production, to come partially into effect May 1, and fully on June 1, with the objective of reducing the scale of production to about the scale of consumption. This composition was not a subject of general agreement nor was the result anything like the formation of a cartel, for many producers did not participate in the conference. The producers in Chile, Katanga and Rhodesia had been chiefly responsible for the expansion in production, and they alone, or substantially so, shouldered the obligation of curtailment, which reduced production to about 95,000 tons per month.

The total production of new copper ex-U.S.A. in 1935 is estimated to aggregate about 1,200,000 tons *vs.* 1,123,000 in 1934.

Consumption.—The rate of absorption into final consumption in the United States in the first quarter of 1935 was about 40,000 tons per month; in the second quarter about 45,000; in the third quarter about 43,000; the average for the fourth quarter may have been higher than in the third. These figures are at variance with increases in sales leading to advances in price, and increases in shipments ex-refineries and ex-mills. The explanation is that refinery sales and mill shipments were in preparation for increased consumption expected in the manufacture of motor vehicles, in building construction and otherwise. The consumption of copper in the United States in 1935 continued to be mainly under the heads of small motors and electrical appliances (largely household), in motor vehicles, in mechanical refrigerators and in the miscellanies that aggregate much more in volume than is commonly supposed and keep fairly steady. There was a substantial increase in building construction, including housebuilding, but the latter continued to be far below the theoretical requirement. In light and power lines, telephone and telegraph plant, industrial lines, etc., there was but little improvement in 1935. The total consumption of copper in the United States in 1934 was about 465,000 tons. In 1935 it may prove to have been about 520,000. These totals include derivation from both new and old copper.

Outside of the United States, against an average of about 86,000 tons per month in terms of new copper in 1934, which exceeded all previous records, there was a monthly rate of about 90,000 tons in January, which gradually rose to a rate of about 104,000 tons in June and July, following which there was a tapering off, but leaving a prospect that the average monthly rate for 1935 will be about 98,000 tons.

The sharp increases in consumption were in Great Britain, Italy, India, Japan, Sweden and Russia, while there was improvement in some of the minor countries of Europe. The increase in consumption was essentially industrial, being associated mainly with housebuilding, railway electrification and general electrification. Japan has entered upon the development of Manchuria and the remarkably increasing gold production in Russia facilitates internal developments in that country. The statistics afford little evidence that the increased requirements for copper in 1935 were associated with military munitioning, except in Germany and Italy. Even in Italy the accounts covering the first nine months of the year, which are the latest available at this writing, show that its increased use of copper was largely for bluestone employed in the vineyards.

LEAD

Foreign Situation.—Noteworthy events in 1935 were the appearance of Argentina and Peru as exporters of refined lead, although on relatively small scales. Impairment of the position of Spain as a lead-producing country, partly through exhaustion of some mines and adverse economic conditions as to others. In general the situations of the lead producing countries around the Mediterranean were unhappy. Production ceased at the old Pontgibaud mines in France. On the other hand lead production in Great Britain was increased substantially through modernization of mining and metallurgical methods. Peru exported electrolytically refined lead (Cerro de Pasco) and high grade argentiferous concentrates (Huaron).

Prices.—The quotation for refined lead at New York was 3.70c. at the beginning of 1935. With some fluctuations the trend of price was generally upward, and at the end of October the quotation was 4.50c., which prevailed to the year-end. Substantially the same thing occurred in the London market, but more emphatically. The quotation for spot lead was £10¼ at the beginning of January, £17¾ at the end of October and £16¾ Dec. 20. The sharp rise in the London market assisted our own market through permitting advance in the latter without any danger of importation duty paid. The advance in the foreign market was responsive to increase in consumption and moderation as to production. The basic economic conditions were substantially the same as those obtaining in respect of copper, with the difference that at no time was there allowed to be runaway production.

Production.—Production of lead ex-U.S.A. during the first eleven months of 1935 averaged 98,000 tons per month, and the average for 12 months will probably be about the same. Production in Canada, Australia and Burma was kept rather steady. Production in Mexico was erratic, owing mainly to labor troubles. Production in Spain and the other Mediterranean countries dwindled except in Italy, where beginning with August it was stepped up substantially, doubtless for military reasons.

Production of newly mined lead in the United States ranged irregularly from 23,000 to 30,000 tons per month during the first eight months of 1935. The total for the year may be forecasted at about 325,000 tons, compared with 293,000 in 1934. The difference between these totals and the much larger figures that are calculated for domestic consumption are explained by drafts on stocks, the use of some foreign lead for manufactures subsequently to be exported, and the resmelting of a great quantity of storage battery scrap.

Consumption.—The average rate of lead consumption ex-U.S.A. was about 81,000 tons in 1933 and about 95,000 in 1934, which was the largest of record. Consumption in 1935 ran at an average of about 98,000 tons per month and the average for the year will doubtless be approximately that figure. The increased lead consumption in 1935 was identified with substantially the same areas as was the increase in copper consumption, but Great Britain stood out rather more prominently. To the consumption of lead ex-U.S.A. should be added a not inconsiderable quantity of foreign lead that enters in the United States into manufactures for export and is included in the accounting of American consumption. With this allowance it will be observed that the consumption of foreign lead was substantially larger than the production, that stocks must have been reduced, as we know them to have been, and being of only moderate aggregate outside of the constant lock-up, the great strength of lead in the London market is easily to be understood.

Consumption of lead in the United States in 1934 was about 477,000 tons, including derivation from both new and old material. The consumption in 1935, following a gradual monthly progression (especially in the second half of the year) will probably be about 520,000 tons. Analysis of the domestic consumption is similar to analysis of copper consumption. The cable manufacturers, who consign mainly to the public utility companies, took less lead in 1935 than in 1934. The use for ammunition and for foil will be about the same, if anything a little less. The increase in lead consumption in 1935 fell mainly under the heads of requirements for storage batteries, for tempering gasoline, for pigments, and for some of the miscellanies.

TIN

World Production and Consumption.—World's production of tin in 1934 was about 115,000 long tons. The indications from the first 11 months of 1935 are that the total for this year will be about 145,000 tons. Consumption increased at a larger rate, visible supplies having decreased from 17,100 tons at the beginning of January to 15,300 at the end of September. We may therefore prognosticate world's consumption at about 147,000 tons, compared with about 127,000 tons in 1934, without correction for drafts on invisible stocks in the United States, which were still further reduced in 1935.

Domestic Consumption.—The United States continued to be the largest consumer, its use of tin having been about 62,000 tons, *vs.* 54,000 tons in 1934. It should be observed, however, that our tinplate makers over-manufactured and accumulated a super-normal stock of their product, wherefore the real consumption of tin was not so large as it appears statistically to have been. Our largest use for tin is for tinplate, and the largest use for tinplate is for cans. The canning of lubricating oil for motor vehicles, and more recently the canning of beer, have substantially increased the use of tinplate.

International Control.—The production of tin in the major supplying countries of the world continues to be under the control of the International Tin Committee, which is essentially a cartel of governments. This organization makes no attempt to fix price, but it does aim through careful industrial and statistical study to adjust production to consumption within a moderate range of price fluctuation. In 1935 the price for tin at New York was 50.75c. per ton. At the end of October it was the same. In the meanwhile there had been a monthly average of 46.96c. in March and 52.30c. in July. The increasing rate of consumption made it necessary for the International Committee to raise its quotas, which during the first quarter of 1935 were at 40% of nominal capacity; during the second quarter 45%; raised to 50% July 12; to 65% Aug. 9; to 70% Oct. 4, retroactively to July 1; to 80% Oct. 22, retroactively to Oct. 1; and to 90% Dec. 6. The reduction of visible stock of tin to the dangerously low figure (13,400) of Sept. 30 caused a good deal of commercial nervousness and aroused the criticism that notwithstanding its statistical surveys the Control had not advanced production early enough.

The great dangers of the International Control at what is considered to be a high level of price (compare with an average of 50.43c. in 1928 and 45.16c. in 1929) are in the invitations to the development of new mines and to invention and introduction of substitutes for tin. So far the Control has steered safely between these risks, in which it has been assisted naturally by the increasing rate of consumption. Aluminum and cadmium offer real threats as substitutes, but as yet their effects have not been statistically noticeable. As for new production, the Belgian Congo is becoming the most powerful competitor and is constantly demanding larger allowances. Development of a new mine in the province of Jujuy, Argentina, attracted some attention in 1935.

ZINC

Dissolution of Cartel.—The International Zinc Cartel was dissolved at the end of 1934 owing to inability longer to reconcile the divergent interests of the several national groups of producers, each country being desirous of becoming self-sufficient. The disappearance of this organization had no adverse effect upon the industry.

Foreign Production.—During 1935 the great new plant at Magdeburg (Germany) came into full operation, swelling the production of electrolytic zinc. Some small plants were completed in several countries. The proportion of world's production that is produced by electrolysis consequently continues to increase and satisfies the increasing demand for high-grade zinc, which in Europe commands a premium of £2 per ton, reduced from £2.5 during 1935, and in the United States about 1c. per lb.

Zinc Metallurgy.—There was nothing new in 1935 that is of great omen. The New Jersey process of continuous distilling continues in use in two plants in the United States and in one in Great Britain. Another one is now being installed in Germany. The New Jersey process of reflux refining of crude spelter is successfully applied both in America and in Europe.

New Prospecting.—The prospective shortage of zinc ore in the United States inspires energetic prospecting for new supplies. Nationalistic aspirations abroad lead to developments toward self-sufficiency. The most important thing now in progress is the equipment of the Rammelsberg mine in Germany, a major orebody, with modern plant for milling and distilling, which will be completed in 1935. It is reported also that Magdeburg is to be extended from 40,000 tons annual capacity to 60,000. With Magdeburg and Rammelsberg it is estimated that Germany will no longer have to import spelter, which previously it obtained largely from Poland. This is causing an immense commercial dislocation.

Prices.—The price for common spelter at London was £12 at the beginning of 1935, from which it gradually rose to £16½ at the end of October, notwithstanding some increase in production. Late in December it was about £15. The course of the American market was similar, the St. Louis quotation being 3.70c. at the beginning of 1935 and 4.85c. at the end of October, which prevailed to the year-end.

Production.—The American production of spelter in 1935 may be safely estimated at 428,000 tons, compared with 367,000 in 1934. The production outside of the United States will be about 1,030,000 tons in 1935, compared with 934,000 in 1934.

In 1934 electrolytic spelter constituted a large proportion of the world's total. In 1935 the proportion of such spelter will be even larger. Besides the large production of electrolytic spelter of upward of 99.95% zinc, much of it upward of 99.99%, there is also a large production of distilled spelter of the same grades. The demand is running strongly for such grades, leaving galvanizing and rolling as the chief markets for common spelter.

Consumption.—Zinc consumption ex-U.S.A. averaged about 75,500 tons in 1934. During 1935 it ran at a rate of about 81,000 tons. The increased use has occurred in substantially the same countries as for copper and lead, and for the same reasons. Besides the foreign consumption there is some spelter of Mexican origin used in the United States in manufactures for export. Allowing for this it appears that consignment to consumption has been in excess of production and the strength of spelter in the London market is, therefore, explained. Allowing for the quantity that is always in transit from remote places of production the quantity of stock immediately available in Europe is now relatively small. The stock in the United States is relatively larger, but is not of the nature of an incubus on the market.

Consumption of spelter in the United States increased substantially in 1935, especially for brass making, die-casting and galvanizing. The larger manufacture of motor vehicles required a good deal more brass, and also a good deal more die-cast zinc, which is in fashion for body hardware, radiator grills, etc. The use of die-cast zinc is spreading widely in other manufactures, with the result that the consumption of zinc in this form is increasing rapidly. The same is occurring in Great Britain and Germany, which are, however, still far behind the United States in this application. The improved situation of American farmers enabled them to be better buyers of galvanized sheet, wire, tube, etc. in 1935.

The benefit of the relatively new absorption of zinc into die castings is not unmitigated. In the course of time old zinc junk refluxes from such use and is beneficiated for the manufacture of zinc oxide, displacing more or less new spelter for that purpose. During 1935 this was contributory to a severe break in the price for zinc oxide in the United States, which during September was cut from 10 5/8c. to 6½c. for the highest grade (White Seal) and other grades in proportion, the new prices becoming effective Oct. 1.

PETROLEUM

By Axtell J. Byles

President, American Petroleum Institute

INDUSTRIAL IMPROVEMENT

Virtually every branch of the American petroleum industry found 1935 the most active 12-month period in years. The greatest domestic production of crude oil since 1929 followed the greatest expansion in drilling activity since 1920. Newly discovered reserves were greater than estimated requirements for the year. The largest amount of crude oil, also since 1929, was run to refinery stills to meet a constantly growing demand. Motor fuel consumption reached a new peak, and even taxes rose to record high levels.

PRODUCTION

World and Domestic Output.—World production of crude oil reached an estimated total of 1,608,500,000 barrels, or more than 85,000,000 above the 1934 output. Production in the United States is estimated at 993,200,000 barrels, or slightly more than 84,000,000 above 1934.

PRODUCTION OF CRUDE OIL

(in barrels)

Year	U. S.	Rest of World	Total
1931	851,081,000	522,575,000	1,373,656,000
1932	785,159,000	524,518,000	1,309,677,000
1933	905,656,000	537,726,000	1,443,382,000
1934	908,065,000	614,178,000	1,522,243,000
1935 (estimated)	993,200,000	615,300,000	1,608,500,000

Exploring and Drilling Expansion.—Widespread application of improved methods of oil prospecting and discovery, accompanied by outstanding progress in drilling and development, paralleled an expansion of exploration and drilling. The percentage of "dry" holes to total wells drilled was less than 20 per cent. Principal discoveries included Anahuac field, Texas; Monument field, New Mexico; and Rodessa field, Louisiana. Development of deep drilling, with some wells now more than 10,000 feet deep—the deepest extending more than two miles into the earth—had the effect of disclosing new sources of oil at deeper horizons, and of finding more oil at lower levels under established producing areas, such as the Fitts pool, Oklahoma.

WELLS COMPLETED IN THE UNITED STATES

Year	Oil	Gas	Dry	Total
1931	6,788	1,985	3,659	12,432
1932	10,446	1,026	3,569	15,041
1933	8,078	918	3,318	12,314
1934	12,520	1,368	4,309	18,197
1935 (estimated)	14,960	1,390	4,880	21,230

Storage.—Progress made by the industry, despite the increase in production and discovery, in reducing crude oil stocks to more nearly economic levels, brought such storage at the end of 1935 to the lowest level of any recent year and did much to improve the industry's statistical position. The year-end estimate of crude oil stored above ground was 311,000,000 barrels, or more than 120,000,000 barrels below the all-time peak, 433,500,000 barrels, reported October 31, 1929.

CRUDE OIL IN STORAGE AT YEAR-END

(in barrels)

1931	370,194,000
1932	339,875,000
1933	354,223,000
1934	337,254,000
1935 (estimated)	311,000,000

Foreign Trade.—The industry's foreign trade in crude oil was maintained. Imports declined, but exports were nearly double those of 1931.

FOREIGN TRADE IN U. S. CRUDE OIL

(in barrels)

Year	Imports	Exports
1931	47,250,000	25,535,000
1932	44,682,000	27,393,000
1933	31,893,000	36,584,000
1934	35,558,000	41,123,000
1935 (estimated)	32,250,000	51,500,000

Prices.—Except for a brief period of readjustment in California, crude oil prices continued throughout 1935 at the $1. per barrel level reached Sept. 29, 1933.

CRUDE OIL PRICES

(per barrel of 36 API Gravity
Mid Continent Oil)

Year	High	Low
1931	$ .95	$ .33
1932	.92	.69
1933	1.00	.25
1934	1.00	1.00
1935	1.00	1.00

REFINING

Volume.—The extent of refinery activity resulting from a growing demand for refined products, especially motor fuel, was reflected in the greater volume of crude oil run to refinery stills. Total runs for the United States in 1935 amounted to 966,350,000 barrels, or more than 70,000,000 barrels above total runs of 1934. Crude oil runs to stills in the United States since 1930 follow:

1931	894,608,000	barrels
1932	819,997,000	"
1933	861,254,000	"
1934	895,636,000	"
1935 (estimated)	966,350,000	"

Motor Fuel.—Refineries increased their production of motor fuel throughout the year to meet a demand which began growing with the summer season and swept on through the fall. Total domestic consumption of gasoline in 1935 reached 18,150,000,000 gallons, a new all-time high. This volume of motor fuel had an estimated retail value of $2,459,000,000. Its sale produced, in revenue from Federal and state sales taxes alone, more than one-third of its dollar value.

MOTOR FUEL PRODUCED IN U. S. REFINERIES

(in barrels of 42 gallons each)

1931	431,510,000
1932	392,623,000
1933	401,591,000
1934	417,512,000
1935 (estimated)	459,600,000

Refinery Operation.—The number of refineries in operation Jan. 1, 1935 was slightly below the total of Jan. 1, 1934. Refinery construction in 1935 was confined largely to modernization of existing plants rather than building complete new structures, the alterations being necessitated by development and growing use of new and more efficient processes. Refineries in operation in the United States were as follows:

January 1, 1931	346
1932	365
1933	372
1934	454
1935	435

Refined products generally were produced in greater quantity to meet a demand running more than 5 per cent above that of 1934. Production of gas and fuel oil, for instance, was at the highest level in at least five years. Production of kerosene, lubricants, waxes, asphalts, road oils, and miscellaneous commodities also increased. Gas and fuel oil produced in United States refineries since 1930 follow:

	barrels
1931	336,967,000
1932	294,750,000
1933	309,078,000
1934	326,395,000
1935 (estimated)	337,700,000

Foreign trade in refined petroleum products revealed a small gain in imports. Exports were maintained about at the levels of the past two years. Exports and imports since 1930 were as follows:

Year	Exports	Imports
	barrels	barrels
1931	98,859,000	38,837,000
1932	75,805,000	29,812,000
1933	69,942,000	13,501,000
1934	73,160,000	14,936,000
1935 (estimated)	73,150,000	20,500,000

MARKETING

Increased Demand.—Marketing operations reflected growing demand. While the volume of sales of refined products, particularly motor fuel, rose throughout the year, prices continued at the same or slightly lower levels.

MOTOR FUEL DEMAND

(in barrels)

Year	Domestic Demand	Total Demand
1931	407,843,000	453,559,000
1932	377,791,000	413,229,000
1933	380,494,000	409,815,000
1934	410,339,000	435,025,000
1935 (estimated)	433,000,000	462,000,000

GAS AND FUEL OIL DEMAND

(in barrels)

Year	Domestic Demand	Total Demand
1931	336,698,000	365,929,000
1932	308,067,000	328,061,000
1933	316,344,000	336,907,000
1934	331,989,000	360,594,000
1935 (estimated)	352,500,000	380,000,000

ESTIMATED NUMBER OF OIL BURNERS IN OPERATION

End of Year	Industrial	Domestic	Total
1931	40,200	733,100	773,300
1932	41,700	807,200	848,900
1933	42,900	879,900	922,800
1934	44,950	968,175	1,013,125
1935	47,000	1,095,000	1,142,000

INDEX OF WHOLESALE PRICES

(1926 = 100)

(U. S. Bureau of Labor Statistics)

Month		Petroleum Products	All Commodities
1934	September	51.3	77.6
	October	50.4	76.5
	November	50.5	76.5
	December	49.8	76.9
1935	January	48.8	78.8
	February	48.7	79.5
	March	49.8	79.4
	April	51.0	80.1
	May	52.2	80.2
	June	53.2	79.8
	July	52.9	79.4
	August	52.4	80.5
	September	50.6	80.7

Domestic demand for motor fuel, used in the nation's motor vehicles, and for gas and fuel oil, source of industrial and home heat, reached new peaks.

Prices.—Wholesale prices of petroleum products, as compared with wholesale prices of all commodities, remained one of the lowest, a position they have occupied for years.

MOTOR FUEL PRICES, TAXES, AND COSTS

(Average in Cents per Gallon in 50 Representative Cities)

Year	Average Retail Price	State and Federal Taxes	Average Total Cost per Gallon to the Consumer
1931	13.00	4.00	17.00
1932	13.30	4.63	17.93
1933	12.41	5.42	17.83
1934	13.64	5.21	18.85
1935	13.55	5.29	18.84

As recently as 1926, the year generally accepted as the normal for comparison of prices and other statistics, consumers of gasoline in the United States were paying an average price of more than 20 cents per gallon. The average price for 1935 is estimated at 13.55 cents per gallon (excluding tax), a decline of 32.5 per cent from 1926.

TAXES AND EARNINGS

Despite the reduction in the retail price of gasoline as the result of improvements in refining processes and efficiencies in production, distribution and marketing, the consumer has not fully benefited by the economies. Reduced prices have been offset by constantly higher taxes, and state and Federal levies upon gasoline now constitute a sales tax averaging 40 per cent, and equal to approximately 100 per cent of the wholesale price of the product.

GASOLINE TAXES PAID BY CONSUMERS

Year	State	Federal	Total
1932	$513,047,239	$ 62,839,827	$575,887,066
1933	518,195,712	181,125,988	709,321,700
1934	565,027,000	170,109,269	745,136,269
1935 (estimated)	625,000,000	169,500,000	794,500,000

The direct cost of gasoline taxes to the average motorist is revealed clearly when it is considered that he buys 600 gallons of gasoline annually. Ten years ago 600 gallons cost him $120.54. Gasoline taxes were only $12.66 then. Today the gasoline costs $81.30, or only two-thirds as much, but gasoline taxes amount to $31.74, or nearly three times as much.

ESTIMATED ANNUAL COST OF MOTOR FUEL AND TAXES PER CONSUMER

(Based Upon 600-Gallon Annual Consumption and Average Tax Rate)

Year	Cost of Fuel	Cost of Taxes
1925	$120.54	$12.66
1929	107.52	21.00
1935	81.30	31.74

Including gasoline taxes the annual tax bill now exceeds $1,000,000,000. This figure does not, however, include an additional $22,500,000 the industry spends in collecting gasoline taxes. In the 14-year period 1911 through 1934 taxes totalled $6,913,265,432 or nearly three times the net earnings of $2,462,039,974. The average investment in this period was $10,312,731,857. Net earnings averaged $175,859,998 or 1.86 per cent. There are now 201 petroleum taxes: 39 Federal, 121 state, and 41 county, city and local.

NATIONAL OIL SURVEY

Domestic Reserves.—Significant among outstanding developments in the petroleum industry during 1935 was the completion by the American Petroleum Institute of a survey of the

ESTIMATED PETROLEUM INDUSTRY EARNINGS AND TAXES

Year	Investment	Net Earnings	Per Cent Earned	Tax Total
1930	$12,000,000,000	$ 92,439,088	1.38	$ 670,606,663
1931	12,100,000,000	333,903,133 deficit	−2.76	684,777,687
1932	12,200,000,000	182,400,000 “	−1.50	777,097,125
1933	12,000,000,000	204,000,000	1.70	1,004,824,028
1934	12,000,000,000	264,000,000	2.20	1,046,149,575

industry's progress since 1925 and of the nation's petroleum reserves. The survey, conducted by the most experienced men available, revealed that proven domestic oil reserves are today well over 100 per cent larger than those estimated 10 years ago, or at any time previous to 1925. The present proven reserves are estimated to exceed 12,000,000,000 barrels. It was explained that these reserves represent only an underground working stock of crude oil and in no way constitute the total volume of crude oil ultimately recoverable. The survey disclosed that more than 1,000,000,000 acres of geological formation, which may contain oil, remain to be explored and that from the nation's stores of bituminous coal and oil shale there can be obtained enough motor fuel to meet needs for centuries.

Increased Recoveries.—Greatly increased oil recoveries, estimated from 50 to 100 per cent, have been made possible by higher efficiency in drilling and production methods, with deep drilling, use of the water drive, repressuring operations with gas or air, and unit development and operation of oil pools tending to increase the yield and to prolong the producing life of oil fields, thus effectively promoting conservation of petroleum resources. The survey further reported that the refining branch of the industry is contributing to conservation by increasing the yield of refined products obtainable from a given volume of crude oil. Recovery of gasoline from a barrel of crude oil, it was explained, has grown to an average of 44 per cent. Some modern plants are capable of recovering 70 to 75 per cent. The ''cracking'' process alone, it was said, since 1920 has produced gasoline which otherwise would have required more than 6,500,000,000 additional barrels of crude, the saving being equivalent to 75 per cent of all petroleum produced in the last 10 years.

Polymerization.—During the year there was a definite trend toward the use of the polymerization process of refining, an operation which produces gasoline by building up refinery gases. These hydrocarbon gases, and also natural gas, are polymerized to yield high quality gasoline, which is mixed with the cracked product to improve quality and increase quantity.

Diversified Products.—Outstanding also was the announcement that refinery technologists have, through research upon which the industry spends $10,000,000 to $12,000,000 annually, developed diversified products, greatly improved quality, and effected economies reducing costs to consumers.

Employment and Wages.—The industry increased employment 37 per cent from the depression low point, at the same time shortening working hours 30 per cent and raising the wages of its employees. These wages, in purchasing power, stand today at practically the 1929 peak. In general, 1,000,000 persons are directly employed by the industry, the pay roll approximating $1,250,000,000.

Regulation.—Efforts made in Congress and elsewhere to bring the industry under rigid Federal control were viewed by the industry as unnecessary attempts at industrial socialization. The industry, investigated for the fifteenth time in as many years, proposed to Congress and to Federal and state governments that regulation be held to a minimum to allow it reasonable freedom to serve the public efficiently and economically. Congress was asked to encourage the state governments to cooperate through a compact permitting fullest use of state powers to regulate production of crude oil and of natural gas, both to conserve natural resources and to balance output with demand. It was suggested also that the Federal government supplement state efforts by making permanent and rigidly enforcing laws prohibiting the shipment in interstate and foreign commerce of oil produced in violation of state laws.

Legislation.—Congress responded by approving the Interstate Oil Compact, now ratified by six producing states and effective under the operation of the Interstate Compact Commission headed by Governor E. W. Marland, of Oklahoma. Congress also enacted into law the Connally Act prohibiting interstate traffic in "hot oil."

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.

AMERICAN GAS ASSN., 420 Lexington Ave., New York City.

AMERICAN INSTITUTE OF MINING & METALLURGICAL ENGINEERING, 29 W. 39th Street, New York City.

AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.

AMERICAN MINING CONGRESS, 841 Munsey Bldg., Washington, D. C.

AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.

AMERICAN PETROLEUM INDUSTRIES COMMITTEE, 50 West 50th Street, New York City.

AMERICAN ZINC INSTITUTE, 60 E. 42nd Street, New York City.

DIVISION XIII

MANUFACTURES AND TRANSPORTATION

CONDITIONS IN MANUFACTURING

By L. Seth Schnitman

Chief Statistician, F. W. Dodge Corporation

GENERAL

Industry took up in earnest its march toward better times during 1935. On virtually all important flanks, economic forces massed for the attack. By far the most successful was this offensive of 1935 of any waged since recovery was first sighted. Partially liberated by the judiciary from the chains of bureaucratic bondage before the year was half over, it is small wonder that manufacturing enterprise was quick to mirror the basic improvement that had occurred in underlying conditions. In this betterment in fundamentals no factor was of such significance as the recurrent coincidence of improvement in kind, though not in degree, in the two industries which, more than any other, provided the stimuli for the high industrial activity that characterized the 1920s.

Together the automobile industry and the loosely-called home-building industry afforded the backbone if not indeed the ribs and vitals of the extended post-war prosperity period that culminated in 1929. Together these industries, by the inexorable turn of natural forces, provided the basis for expansion of the industrial activity that occurred in 1935 and that is likely to continue into 1936, barring some unpredictable catastrophe such as a war. Add to the automotive and residential building fields their resultant interactions upon the steel industry and here there is an industrial trinity in which activity or lack of it will for some time to come serve to epitomize the well-being of the American economic scene. There is still, however, the scourge of unemployment to plague upwards of 10,000,000 individuals. From one-fifth to one-fourth of our population are direct beneficiaries of government pay-checks, either for relief or services, with perhaps an equal proportion of our people in a large measure dependent upon those payments for their own livelihood and support. Other problems, too, which should have been squarely met early—more so by industry than by government—persist, but pressure for their solution will very likely lift as the recurring period of pseudo-prosperity gains stride.

It was always so, and Time still rides as the great healer. Imperfect as it is in its manifold curative processes, unsatisfactory as are the results when considered from the point of view of permanency, the glide of days into weeks, months, years softens the shocks that have beset man and his institutions from the beginning of recorded history.

In the 1920s private debt skyrocketed to previously unheard-of heights, only to find that sustained business prosperity was still impenetrable to such a flimsy contrivance as debt. In the early 1930s governmental excursions, in search for the millennium of social security, took up the stratospheric flight temporarily forsaken by private obligors, with the result that public debt,—Federal, state, municipal—now stands at unexampled levels. The debt problem, thus, has been shifted—as it has been in the past—but the disease still lingers on as one of the basic causes of economic maladjustments and their train of human suffering.

Raising the curtain on the 1935 industrial stage we find that automobile output during the year attained the gargantuan proportions of a boom year. Residential building, in which improvement was much more delayed, was undertaken on a scale almost twice as extensive as in 1934. Steel, the one-time bellwether, was produced in a volume more than 30 per cent heavier than in the previous year. These were the legs of the tripod that supported the extensive gains throughout all industry.

INDUSTRIAL PRODUCTION

Volume Output.—The physical volume of industrial production during 1935, covering both manufacturing and mining, as measured by the weighted index of the Federal Reserve Board, was about 14 per cent greater than for 1934, thus continuing the progressive improvement first observed in the annual index for 1933. For 1935 the quantitative total of industrial output, with an index of 90 based on the average for the period 1923-25 as 100, was 40 per cent above the record low level reported for 1932. Despite this improvement the 1935 index was some six per cent below the level for 1930 and virtually 25 per cent below the peak level for 1929.

Index Trends.—Of larger moment, perhaps, are these facts: (1) the monthly indexes of industrial output, adjusted for seasonal influences, trended downward throughout the first five months of 1935; (2) beginning with June, the first month after the NRA was outlawed by the U. S. Supreme Court, the indexes were progressively higher for each month; (3) averaged for the first half of 1935, the index was less than 6 per cent higher than for the like period of 1934; (4) For the final half of the year the average was almost 22 per cent above the level for the final half of 1934.

Whatever the causes, however the occurrences may be explained, the results alone are indisputable. Yet these are the facts that seem destined to be as pawns—indeed already have been so played—upon the chessboard of politics. Criminations and recriminations by industry and government, increasingly more pronounced since the end of 1933, promise to reach fever heat during 1936, with the probability that unsettlement during the first half of the year will somewhat parallel the conditions in early 1935 though for 1936 as a whole industrial output should exceed the 1935 total.

Manufacturing and Mining.—For manufacturing output, as apart from mineral production, the Federal Reserve Board index showed 1935 at 89 per cent of the 1923-25 base as against an index of 78 for 1934, 63 for 1932, 95 for 1930, and 119 for the peak year, 1929. For mining output, the weighted index for 1935 was computed at 91 per cent of the 1923-25 average as contrasted with an index of 86 for 1934 and 115 for 1929.

Of all industries included in the index of manufacturing production only automobiles, plate glass, leather and shoes, petroleum refining, textiles, rubber tires, and tobacco products manufacturing, showed larger output during 1935 than the average for the three-year period, 1923-1925. With the exception of automobiles and glass, these industries are distinctly classifiable as consumers' goods lines. Such producers' goods or durable goods manufacturing as cement, iron and steel, lumber and ships, were produced during 1935 in quantities below their respective annual volumes of the years, 1923-1925. In this disparity between the consumers' and producers' goods industries there lies the reason for the sluggishness of our emergence from the economic mire.

Manufacturing Values.—The value of all manufactures during 1935, including the printing and publishing industries, probably ranged between $43,000,000,000 and $47,000,000,000 as against only $31,358,000,000 in 1933 and $69,961,000,000 for 1929. At any rate it seems safe to conclude on statistical evidences, that the Census of Manufactures for 1935, when finally compiled, will disclose a production total in substantial excess of the $41,038,000,000 recorded for 1931. It is also probably safe to conclude that the number of manufacturing establishments was materially lower than in 1931; that the average number of wage earners was higher than in 1931; that the value added by manufacturers to the cost of materials (including in this cost, containers, fuel, and electrical energy) probably exceeded the ''value-added'' item for 1931. It seems certain, too, that some 7,000,000 factory wage-earners shared at least $6,250,000,000 in wages.

IRON AND STEEL

The output of pig iron during 1935 totaled about 21,000,000 tons as against about 15,900,000 tons in 1934. In the final months of 1935 the production volume was about twice what it was in the final quarter of 1934 with more furnaces in blast at the year-end than at any time in five years. Steel ingot production during 1935 amounted to about 33,500,000 tons as against only 25,600,000 tons for 1934. For the year as a whole, therefore, the industry operated on a basis not far below 50 per cent of capacity, this in contrast with a ratio to capacity of only 37.4 for 1934.

Beginning shortly after mid-year the steel industry staged a striking revival, with production running contra-seasonal through the usually dull summer months and continuing even into the year-end holiday season. At the year-end the steel industry was on a basis of almost 50 per cent of capacity as against only about 37 per cent at the end of 1934 and less than 15 per cent at the 1932 year-end.

As the year 1935 ended, employment in the iron and steel industries was roughly 80 per cent of the 1923-25 average while total payrolls were only about 70 per cent of that level. Prices for steel scrap rose materially during 1935 while finished steel prices showed relatively small change for the year as a whole from the 1934 average level. Exports of iron and steel products in 1935 showed further expansion, being more than twice as heavy as in 1933, and having attained to a level exceeding even the 1929 volume, largely due, no doubt, to gathering war clouds abroad.

Domestic consumers of steel again were headed by the automotive manufacturers who accounted for approximately 25 per cent of the total consumption. The construction industry took an additional 12 per cent while the farm machinery industry which experienced its best market in five years, thanks in part to the AAA program which was outlawed by the Supreme Court Jan. 6, 1936, was another important outlet for the increased steel output of 1935. The container and sundry miscellaneous industries accounted for the bulk of the remaining steel consumption, while the railroad industry continued as the most laggard of all steel customers though the reason for this condition was not hard to find.

AUTOMOBILE PRODUCTION

To a considerable degree the striking reversal of trend in steel production in mid-1935 resulted from the changed production schedules of the automobile industry which were effected to iron out the customary late autumn slack in production and sales. Under the stimulus of this changed production schedule the automobile industry in the final quarter of 1935 produced more than 1,000,000 passenger cars and trucks, a level never before attained in a similar quarter. For the full year 1935 the automobile production total (factory sales) amounted to about 3,975,000 passenger vehicles and trucks. This compares with a total of 2,753,000 for 1934 and only 1,920,000 for 1933. During the peak year, 1929, a total of more than 5,350,000 units was produced. In a sizable degree, increased production of automobiles was due to increased demands from agricultural areas. The adverse court decision on the AAA program may seriously affect automobile sales to rural customers during 1936.

Of the 1935 automobile total, passenger vehicles accounted for about 3,250,000 units while trucks totaled about 725,000. Comparable figures showed for 1934 a passenger car total of 2,178,000 and a truck volume of 575,000 and for 1933 a total of 1,574,000 passenger cars and 346,000 trucks.

As the year 1935 ended it was apparent that some of the heavy production of the final quarter was at the expense of the schedules for the initial quarter of 1936 while the changed production schedule and the resultant increase in consumer purchases, doubtless contributed, in some considerable degree, to the piling up of dealers' stocks of used cars which at the year-end were more burdensome that at any time in several years. Partly because of this condition and because of the uncertain agricultural conditions already cited production of passenger cars and trucks during the initial half of 1936 will likely fall below the total of 2,263,000 reported for the corresponding six months of 1935, though the year's total may likely exceed the 1935 volume.

Expansion in the automotive industry naturally produced the basis for increased activity in allied industries and sharp rises in employment and payrolls in motor centers. Improvement in the machine tool industry, in malleable castings, plate glass, was directly traceable to gains in the automobile industry.

The automobile tire industry quite naturally gave a good account of itself. During the year approximately 50,000,000 pneumatic casings were produced, a gain of upwards of 4,000,000 over the total of almost 46,000,00 produced in 1934. As the year 1935 became history, manufacturers' stocks of casings, amounting to about two months' production, were lower than at the 1934 year-end.

METALS—NON-FERROUS

Tin.—Tin deliveries to consuming establishments exceeded the 1934 total by about 14,000 tons or by about 30 per cent. World stocks of tin at the year-end were smaller than at the end of 1934, while the price of tin, as the year closed quite naturally reflected the improved statistical position of the metal.

Zinc.—Zinc production at primary plants in 1935 likewise exceeded the 1934 volume, reflective of the broadened demand of a recurrent industrial revival. The gain over the previous year exceeded 15 per cent. Considerably more retorts were in operation at the end of 1935 than at the end of 1934 while refinery stocks were substantially lower and prices were quite logically higher.

Copper.—Copper consumption in the United States was approximately 20 per cent higher than in 1934. In so performing the industry enjoyed its best custom since 1931.

ELECTRIC POWER AND EQUIPMENT

The output of electric power in 1935, in making a gain of about 10 per cent over the total for 1934, made a new all-time peak. This was due as much to the extension of electric power to new domestic users and enlarged uses by household consumers as to the increased demands of industry. Production and sales of electrical equipment in 1935 were better than in at least four years.

MACHINERY AND APPARATUS

Manufacturers of machinery and apparatus during 1935 generally enjoyed better volume than in several years. Foundry equipment, machine tools, oil burners, air-conditioning equipment and coal-stokers were produced and sold in substantially higher volume. Water softening apparatus and water systems were shipped in larger quantities. New orders for power, steam, and centrifugal pumps were increased in 1935 while even shipments of measuring and dispensing gasoline pumps recorded amazing gains during the year.

CONSUMERS' GOODS

Shoes.—Most of the important consumers' goods industries, except food, operated on generally higher production schedules during 1935 than in 1934. Some 370,000,000 pairs of shoes were produced in 1935, a gain of about 6 per cent over the total of 357,-

000,000 pairs for 1934 and an all-time high for the industry.

Wool.—The 1935 consumption of wool by textile producers likewise made a new high with its spectacular gain of more than 80 per cent over the 1934 total. In common with most industry the wool-consuming industry experienced very low operating schedules in 1932 and early 1933. After some recovery in 1933, activity in the wool-consuming industry again trended downward during the first nine months of 1934 reaching a new depression low in September of that year. Since then an almost uninterrupted advance was experienced.

Rayon and Cotton.—The rayon industry, too, attained another new high in 1935 while silk deliveries to consumer establishments also broadened during 1935 reaching a level higher than for any other year since 1932. The consumption of cotton during 1935 was little different from the 1934 total. By operation of the Bankhead Restriction Act cotton production though larger than in 1934 was kept within narrow limits. That this legislation and its companion measures, the Kerr-Smith Tobacco Act and the Potato Control Act seem doomed to the fate of the NRA and the AAA is a fair conclusion in the light of the decision of the Supreme Court on the unconstitutionality of the Agricultural Adjustment Act. Economically, this seems to presage a considerably larger cotton crop for 1936, and perhaps a recurrence of burdensome agricultural surpluses generally.

Foods.—Butter consumption during 1935 was smaller than in 1934; stocks at the end of the year were higher at the year-end than at the close of 1934. Wheat flour production in 1935 was about the same as in 1934. Meltings of sugar at domestic refineries exceeded the 1934 volume by some 10 per cent. The production of pork and pork products under inspection was materially lower than in 1934 due in large measure to the AAA program. The output of beef and beef products under inspection during 1935, too, was sizably smaller than in 1934. The year 1936 seems destined to witness a case of agricultural jitters resulting from the release of the pegging influences of the AAA program.

Cigars and Cigarettes.—Cigarette consumption, as seen from tax-paid warehouse withdrawals, was higher than in 1934. Cigar consumption, too, showed a gain over the volume of the previous year. Exports of cigarettes showed a sizable expansion during 1935.

FACTORY EMPLOYMENT

Factory employment during 1935 naturally mirrored the improved conditions in industry. For the year as a whole the index of factory employment, relative to the average for the period, 1923-25, was 82 as against 78.7 for 1934, 69.0 for 1933, and 104.8 for the year 1929. How to explain a gain of 14 per cent in factory output between 1934 and 1935 in the face of an increase in factory employment of less than 5 per cent should not be difficult though an absolute comparison between the two indexes cannot be drawn with strict accuracy. It is this disparity, whether real or only apparent, that gives one basis of industrial conflict. The question of whether the wage-earner shall participate in the benefits of industrialization over and above his wages is thus again thrown to the fore. This is no new problem and the solution of it still seems a considerable distance off even though the Federal Government feels that an approach to the plaguing problem has been found through its recent enactment of the Social Security Act, the constitutionality of which is yet to be tested.

PROFITS AND WAGE LEVELS

The volume of dividend payments to stockholders of industrial securities swelled materially during 1935, and industrial profits, too, were substantially above the level of earnings reported in 1934. These increases in industrial earnings and dividends are being watched closely by labor, more closely perhaps than ever before. Already labor organizations indicate their concern over rising profits without commensurate rises in wages. This condition probably foreshadows an outburst of industrial disputes especially for the latter half of 1936 when it is expected that the recovery in industry will be shifting into high gear.

FOREIGN TRADE VOLUME

Our foreign trade expanded during 1935. On the side of exports it is of importance to note that our trade with the nations in 1935 was between $200,000,000 and $250,000,000 heavier than in 1934, reaching a volume of about $2,350,000,000, the largest since 1931 when exports totaled $2,424,000,000. Imports in 1935 were larger than for any year since 1930 when they totaled $3,061,000,000. The 1935 import volume of about $2,050,000,000 compares with only $1,655,000,000 for 1934. Lifting of trade barriers, such as was undertaken by our reciprocal trade agreement with Canada late in 1935, may bring about further expansion in our foreign trade. Certainly improving world economic conditions should afford enlarged markets for our goods, barring the outbreak of war.

RAILROADS

The railroad industry, of all major industries, was the most sluggish in 1935. Despite this condition a decided improvement in railroad freight traffic occurred in the latter half of the year no doubt traceable to the general gains in the automobile, building, and steel industries.

CONSTRUCTION

For construction as a whole the 1935 contract volume was some 19 per cent greater than was reported in 1934. The total for the 37 eastern states as reported by F. W. Dodge Corporation amounted to approximately $1,845,000,000 as against only $1,543,000,000 for 1934 and the increase was virtually all due to private as distinguished from public building. In 1931 the contract total was $3,093,000,000 in the same area. Thus it is seen how far we must retrace our steps, only to get back to the 1931 level. To view the total of $6,628,000,000 for 1928 is to cast the longing eye of the fox at the fabled grapes. Two things in the 1935 construction record stand out above all else: (1) despite all efforts of government to stimulate a sick industry, public construction barely exceeded the 1934 total for this class of work, and (2) residential building undertaken by private capital virtually doubled the depression low of 1934.

As the year 1936 dawned these two factors seemed to overshadow all else on the construction horizon. How much longer will government continue to pour its funds into public projects to prime the pump? How far can the residential building improvement go? Guessing as to the latter ranged from moderate and reasonably possible estimates to wild predictions of a boom of the proportions of the 1920s.

Though residential building amounting to about $480,000,000 in the 37 eastern states, virtually doubling the 1934 volume, the total was only little more than half the 1931 volume of $811,000,000 which itself was the third full year of depression for the industry. In 1928 residential building in the reported area totaled $2,788,000,000, a level the attainment of which is some years off.

Whatever else may be said, however, there is little doubt but that 1936 will witness a higher residential building total than in 1935. The stimulus from this quarter to industry, generally, should prove important but disappointment awaits those manufacturers who envision boom proportions.

CONCLUSION

One thing has emerged out of the developments of 1935, and that is that industry in 1936 is less likely to be dominated by politico-economic bondage than at any time in recent years. To argue the causes would be futile. Panaceas will still haunt us but natural forces seem destined to play an increasingly important role.

CONDITIONS OF INTERNAL COMMERCE

By Ada Lillian Bush

Bureau of Foreign and Domestic Commerce, Department of Commerce

BASIC PRODUCTION

Following the upward movement evident in 1934, industrial production continued to advance through the first quarter of 1935, as was anticipated in our outlook for that period (see The American Year Book, 1934 pp. 498-500). The second quarter brought some curtailments but at no time in 1935 was the climb toward recovery interrupted by sharp recessions such as were experienced in the preceding year. Throughout the summer months, seasonal declines met with resistance, and September increases considerably exceeded the usual seasonal gain. Comparable statistical measurements for the eleven months of each year—traced through monthly issues of the *Survey of Current Business*—reveal that the average of industrial output in 1935, without adjustments for seasonal variations, was 11.3 per cent greater than for 1934 and 39.1 per cent above 1932. Available data for December indicate a continuation of this favorable trend.

OUTPUT BY MAJOR INDUSTRIES

Production reports from leading industries show, for eleven corresponding months of both years, a percentage rise in 1935 from 1934 totals as follows: automobile production, 37.5; iron and steel, 30; boots, shoes and leather, 5.8, and textiles, 21.1. Construction contracts rose 9.4 percent while the substantial gains in residential building, sustained throughout the year, contributed to an upturn in lumber output. Among developments during the summer were heartening movements in the steel industry, gains in durable goods production, improvement in wool, silk, rayon, shoe and rubber industries, a favorable showing in electric power production, and a July record-breaking output in cigarettes. These contra-seasonal gains were partially offset in the aggregate total of the year's production by the previously mentioned curtailments that occurred during the second quarter and by the September slowing down in automobile production, while major companies prepared for early introduction of new models. Passenger-car production reached a total for the year that is outstanding in the history of that industry. Increased activity in allied industries naturally accompanied this expansion in automobile output.

INDUSTRIAL AND MERCHANDISE DISTRIBUTION

Freight car loadings increased 22 per cent from July to October though it was not until the middle of October that the cumulative 1935 total exceeded the corresponding total for 1934. Important in the fall increase in traffic were the heavier movement of coal, coke and livestock; the rising volume of miscellaneous freight that accompanied the extra-seasonal expansion in industrial activity, and the heavier movement of goods to retailers. Sales of automobiles during eleven months of 1935 were up 37.8 per cent from sales for the same period in 1934. Sales of general merchandise in rural areas were 19.2 per cent above sales during these months in 1934. Year-end estimates place 1935 rural sales at close to the figure for 1930. The improvement in retail trade was general, however, inasmuch as figures covering sales through department stores, variety stores and chain stores all showed increases over 1934. The dollar increases in sales signifies a larger physical volume since retail prices, except for foods, have shown little variation. Orders placed with producers and wholesalers by merchants were on the basis of a much larger holiday business, than in the preceding year. Late December reports from principal cities indicate that sales of Christmas goods exceeded all expectations.

EMPLOYMENT AND PURCHASING POWER

While there are still large numbers

of people unemployed or on "relief projects," the sustained improvement in production and distribution was reflected in gains in employment by private industry. A significant feature of the monthly statistics was the widespread nature of the gains that began in midsummer. From September to October the seasonally adjusted index of the Federal Reserve Board advanced 1.8 points and stood at the highest level since October, 1930. Factory payrolls were up 4.2 per cent over this period and reached the highest point since March, 1931. Comparable averages for eleven months of each year show 1935 factory employment above 1934 by 3.8 percent, with a 12.8 per cent gain in factory payrolls of 90 industries. There was also an expansion of employment in the private building construction industry. The increase in cash income of farmers constituted an important addition to consumer buying power.

FINANCE

Price movements generally have been influenced by conditions affecting individual commodities or groups of commodities. The combined index for 784 commodities shows the eleven-month average of wholesale prices in 1935 to be 7 per cent above the 1934 average for these months. Food prices rose to an average of 19.1 per cent above the average for the preceding year, and the general level of prices for farm products advanced 21.5 per cent. There was no evidence of widespread price reductions following the invalidation of the National Recovery Administration. Major manufacturers and distributors apparently have inclined toward adherence to the price provisions of the codes set up by the National Recovery Administration. The slow recession in retail prices of general merchandise, under way for about a year, continued during June and July with the exception of some food items. Wholesale commodity prices advanced during August and September as a result of the upturn in prices of farm products and foods. The latter part of September brought some violent fluctuations that steadied to a narrow range by November. A drop in meat prices in October was one of the sharpest reversals in the upward trend in prices for meat since the 1934 drought. The National Industrial Conference Board's index of the cost of living indicates that rents advanced 9.5 per cent during 1935 while clothing prices declined moderately. An upward trend in stock prices accompanied the expansion in business activity and corporate earnings. Stocks began an upward movement in the spring which, with fluctuations attributed to international and political developments, progressed through the closing months of the year. Bank deposits were continuing to expand, according to latest available reports, but the turnover of deposits remained low. A heavy inflow of gold from Europe was a continuing feature of the banking situation.

A FOOTHOLD ON RECOVERY

The statistical record of general improvement in 1935 is encouraging evidence that a foothold has been gained in the climb toward recovery. More cannot be claimed, in view of the millions that still remain unemployed despite huge appropriations of public funds and the Administration's unceasing efforts to relieve this situation. Important among tangible features extending into the new year, are the evidences that 1935 production of most important commodities was applied to current needs; stocks in the hands of distributors are low; a long-deferred demand for consumer goods exists; a plentiful supply of money is available at low interest rates, and opportunities are indicated for a large expansion in residential building and in other industries whose activity involves large-scale use of raw materials. That 1935 gains will hold through the first quarter of 1936, at present strength or better, is fairly certain. Business conditions after the next few months are largely dependent upon general reaction to legislation passed by the 74th Congress; results of pending Supreme Court decisions relating to recovery measures, and political activities incident to an election year.

THE UNITED STATES TARIFF COMMISSION

By Robert L. O'Brien

Chairman, The United States Tariff Commission

MEMBERSHIP

The members of the United States Tariff Commission are Robert L. O'Brien, (R), Massachusetts, Chairman; Thomas Walker Page, (D), Virginia, Vice Chairman; Edgar B. Brossard, (R), Utah; Oscar B. Ryder, (D), Virginia, Raymond B. Stevens, (D), New Hampshire, and E. Dana Durand (R), Minnesota. Mr. Stevens was appointed by the President and confirmed by the Senate in August, 1935, to fill the vacancy caused by the death in September, 1933 of James W. Collier. Mr. Durand, formerly Chief Economist of the Tariff Commission, was appointed by the President on Dec. 8, 1935 to fill the vacancy caused by the expiration of the term of John Lee Coulter in June, 1934. Sidney Morgan is Secretary of the Commission.

ORGANIZATION

The administrative work of the Commission is under the immediate supervision of the Secretary. Units included in the Administrative Service are Finance, Personnel, Docket and Public Information, Stenographic, Graphic, Publications, Library, Mails and Files, Stockroom and Switchboard, and Messengers. The general direction of the work of investigations and of research is under the Director of Research who is aided by three assistant directors of research. There are also a general counsel and a chief economist. The Planning and Reviewing Committee, a staff committee appointed to assist the Commission in planning and carrying on its work, consists of the Director of Research, who is chairman of the Committee, the three Assistant Directors of Research, the Secretary of the Commission, and the chief of the commodity division and the assigned economist who are concerned with the subject before the Committee for discussion. There is also an executive secretary to this Committee. The principal office of the Commission is in Washington, D.C., and a field office is maintained at the Port of New York. The present personnel of the staff of the Commission numbers slightly over 300.

ACTIVITIES UNDER THE TARIFF ACT OF 1930

General Powers of the Commission (Section 332).—Work has been continued during 1935 on the revision of the summaries of tariff information requested in Senate Resolution 334 referred to in The American Year Book for 1934. This and other work required in connection with the Tariff Commission's part in the trade agreements program, which is part of the tariff policy of the present Administration, has caused the Commission to be very active under the powers granted to it in this section. Two special studies of particular interest and importance now in progress, under the provisions of this section, relate to pulp wood and wood pulp, and fish and fishing gear. Both of these were requested by Senate Resolutions. In the first-mentioned investigation the Commission has been directed to obtain all the facts as to the competition experienced by domestic producers of pulp and pulp wood because of importations from foreign countries. The fish and fishing gear investigation includes studies of the subsidies, bounties, and other assistance given to fisheries enterprises in foreign countries, of the effect of imports on the production of fresh and frozen tuna fish, salmon, and other fish; and also how the domestic industries producing nets and nettings and other fishing gear are affected by the imports of these products.

Employment of Nonresident Fishermen.—The report to the Senate on employment of nonresident fishermen in the United States fisheries was made by the Commission in compliance with a Senate resolution directing the Commission to report upon "The employment of crews in foreign ports for temporary service on United States fishing vessels, including the practice of dispatching United States fishing vessels with so-called skeleton crews.'' The fact was developed by the investigation that comparatively few nonresident aliens are employed on United States fishing vessels, although the proportion of resident aliens so employed is comparatively large.

The report indicated that the United States fisheries give employment to 120,000 fishermen, of which only 562 nonresident aliens were employed in the United States fisheries in 1933, but that, in most years, from 30 to 50 per cent of all those employed in our fisheries are aliens legally residing in the United States. Of the nonresident aliens employed, 169 were residents of Mexico employed in the California tuna fisheries and 13 were residents of Canada employed in the North Pacific halibut fisheries, and it is only in those branches of our fisheries that the practice exists of employing members of crews in foreign ports. Only three citizens of the United States who were residents in a foreign country were reported as employed on United States fishing vessels.

Although primarily directed toward securing information on the employment of crews in foreign ports, the investigation included inquiries as to two other methods by which nonresidents are employed in the fisheries of the United States. One such practice is the employment of residents of the treaty coast (Labrador, Magdalen Islands, and certain coasts of Newfoundland, as defined in the treaty of 1818 with Great Britain) to fish in their own boats and deliver their catches to the American fishery employing them. Of the total, mentioned above, of 562 nonresident aliens employed, 300 were residents of Newfoundland and the Magdalen Islands. These men were employed by the New England salt cod and salt herring fisheries. The other method is that of employing ''seasonal fishermen'' who spend part of the year in the United States and part in foreign countries. However, this practice exists only to a negligible extent and is restricted almost wholly to the New England haddock, mackerel and swordfish industries. Only 80 fishermen were employed in New England for seasonal fishing, and they were legal residents of the United States who also maintained homes in eastern Canada and Newfoundland.

The investigation also included a study of employment of aliens as sponge divers. It was found, however, that these workers ordinarily become residents of the United States and appreciable numbers of them have become citizens. They can not be classified as either nonresident fishermen or seasonal workers.

The practice of dispatching United States fishing vessels with skeleton crews is no longer followed although the employment of fishermen on the treaty coast may be so regarded. In that fishery the American vessels carry no fishermen, the actual fishing being done by residents of the treaty coast. In other fisheries, such as the tuna fisheries of California, the nonresidents shipped in foreign ports remain on the fishing vessels as regular members of the crew.

Graphic Analysis of International Trade.—The preparations for negotiating foreign trade agreements called for thorough and definite comparisons of the trade of the United States with all its foreign customers and suppliers, both in generalized form and in detail. To meet the needs for a quick, graphic presentation of American trade relationships with the rest of the world, the Commission devised and published a special set of country and commodity charts which show in detail and in colors how the trade in merchandise was made up in the year 1932. On the left of each chart are shown the exports from the United States to a given country and set up against exports are, on the right-hand side, the imports from that same country. There are 23 of these charts, one for each of 23 selected countries of importance in the international trade of the United States. Each of the country charts is accompanied by a brief discussion of the significance of a given country as a market for our exports and as a source of supply of imports for the United States. The charts and the text are supported by a brief statistical summary of both the import and the export trade by commodities for practically all items of significance exchanged between the two countries.

Another set of eleven bar charts shows by commodity groups and commodities all the important imports of the United States and the countries which are our principal suppliers of each commodity.

By means of a general chart for both the country series and commodity series, the Commission has summed up the world trade of the United States in a single master chart for each subject.

Alcoholic Beverages and the Tariff.—In this report the Commission brought together statistics of production and importation of the several classes of alcoholic beverages for the first year subsequent to the repeal of the prohibition amendment and gives for comparison statistics of production and trade in pre-prohibition years. For each class of alcoholic beverage it tells the recent tariff history and discusses the tariff problems peculiar to the trade in each.

The information contained in the report is arranged by paragraphs of the Tariff Act of 1930, with the data summarized under each paragraph in a form suited to the consideration of the tariff on alcoholic beverages in relation to the general policy of the Government in regard to the amount of revenue to be derived, the control and direction of consumption of liquors, and reciprocal trade agreements.

The report calls attention to the fact that the competitive conditions now obtaining in distilled spirits, especially whisky, differ markedly from those likely to obtain when conditions become more stable. At present there is shortage of mature, aged liquors resulting from the inadequacy of the stocks on hand at the time of repeal, the length of time required to produce a properly aged liquor, and the time and experience necessary to develop the formulas and technique required for the production of special liquors, particularly cordials, liqueurs, and bitters. On the import side the shortage results from the restrictive influence upon the importation of mature liquors of the present rate of duty which is superimposed upon an excise tax applicable to liquor of both foreign and domestic origin.

In discussing the competitive conditions in the trade in champagne and other sparkling wines, the report points out that sparkling wines are a luxury product and commonly command a higher price than other beverages bought by the same consuming group. Because its price is high, sparkling wine is usually sold on a quality basis, domestic sparkling wines usually selling for about half the price of the imported.

It is brought out in the report that it is necessary to distinguish between the competition which occurs in the sale of ordinary quality, low price domestic and imported still wines and that which takes place in the marketing of superior quality, high price wines, sold under well-known names. The domestic industry enjoys certain competitive advantages in the first class of wines, whereas the imported product has a more favorable position with respect to wines in the second class.

In supplying the bulk of the United States demand for beer, the report shows that the domestic industry is in an advantageous position in competing with foreign breweries. Imports of malt beverages are principally specialties, ales, porters, stouts from the United Kingdom, and beers from Germany, Czechoslovakia, and other foreign countries. Brewing, especially with modern plant engineering and machinery, requires a minimum of hand labor. The new domestic breweries have the advantage of modern improvements and new technique. The domestic industry enjoys another advantage—that of low-priced raw materials and supplies. Imports of malt beverages in 1934 equalled less than 15,000 barrels compared with domestic production of more than 43,000,000 barrels. Effective Feb. 15, 1935, the duty on malt beverages was reduced by Presidential proclamation from $1 to 50 cents per gallon under Section 336 of the Tariff Act of 1930.

The report clearly indicates the magnitude of the fiscal aspects of the liquor problem. In the calendar year

1934, internal revenue taxes on liquors yielded $375,000,000, and the duty on imports of liquors yielded $42,500,000.

Phosphates, Crude, and Superphosphate.—This report was prepared as a result of an investigation directed by a Senate Resolution. Both these articles are exempt from duty. Phosphates are specifically exempt and superphosphates exempt when imported for fertilizing purposes. The United States production of phosphate rock, the raw material for superphosphate, is larger than that of any other country and accounts for approximately one third of the total world output. Imports of crude phosphates have never exceeded 1 per cent of the domestic output. Importations were largely from French Morocco but as a result of anti-dumping proceedings imports from that country ceased after 1930. Most of the recent imports have been from French possessions in the Pacific and have entered the Hawaiian customs district. The United States exports of phosphate rock average about one fourth of the production but have fallen materially since 1930 as a result of competition of North African and Soviet Union phosphates in the European markets. In recent years Japan has been the largest buyer of our phosphate rock.

The United States leads in the production of superphosphate, which is derived from crude phosphatic material. Imports have at all times been small in comparison with domestic production. In both 1932 and 1933, imports equaled about 1 per cent of the domestic output. Exports, while not large, have exceeded imports. In recent years imports of superphosphate have come principally from Japan, and competition from imports has been confined almost entirely to the Pacific coast where they have supplied a large proportion of the local consumption. Japan has only small deposits of phosphatic rock and secures its supplies mainly from the United States, Egypt, French Oceanic and the Makatea Islands, a fact that will probably prevent any great expansion of the production of superphosphate in that country.

Synthetic Camphor.—The Tariff Commission completed during the year the last of three investigations with respect to synthetic camphor required by Paragraph 51 of the Tariff Act of 1930, which provides that the duty of 5c. per lb. provided for in that Act shall be reduced to 1c. per lb. if the domestic production did not exceed: (a) 25 per cent on the domestic consumption during the six months ended June 17, 1933; (b) 30 per cent on the domestic consumption during the six months ended June 17, 1934, and (c) 50 per cent on the domestic consumption during the six months ended June 17, 1935.

In each of the first two of its investigations, the Commission found that the ratios of domestic production to consumption of synthetic camphor during the first two periods were substantially in excess of the requirements for those periods; namely, 25 per cent and 30 per cent, respectively. The present report, covering the third and last period, shows that the domestic production of synthetic camphor greatly exceeded the 50 per cent specified in the law.

The consumption of 1,169,414 pounds of synthetic camphor during the third and final period of the investigation (Dec. 18, 1934 to June 17, 1935), compares with the consumption of 886,428 pounds during the second period (Dec. 18, 1933 to June 17, 1934), and 397,138 pounds during the first period (December 18, 1932 to June 17, 1933). The entire domestic output was by one manufacturer until late in 1934 when another domestic firm began production of synthetic camphor at a plant in New Jersey.

The principal use of synthetic camphor is in the production of pyroxylin and celluloid articles, including the thin sheets used in laminated or nonshatterable glass. Natural crude camphor, a product of Japan, is largely interchangeable with synthetic camphor in this use.

Tariff and Its History.—The Commission, in response to numerous requests from students as well as business men for information on the subject of tariff, has prepared a pamphlet entitled *The Tariff and Its History.*

The document consists largely of excerpts from the Dictionary of Tariff Information, an earlier publication of the Tariff Commission now out of print. The present publication also gives a brief history of the Tariff Commission and refers to some of the more recent legislation relating to the tariff.

Flexible Tariff Provisions (Section 336).—During the past year work under this section, which provides for changes in duties within certain limitations by proclamation of the President after investigation by the Tariff Commission of the difference in costs of production of a domestic article and a like or similar foreign article, has been limited. There are several reasons for this, including the fact that a great deal of other work has been requested of the Commission; new laws providing for other means of regulating imports and adjusting import duties have been passed, and the lack of applications.

An investigation of widespread interest that has been instituted under this section during the past year is one relating to cotton cloth, which was ordered by direction of the Senate. Another investigation of importance undertaken during this year, pursuant to the provisions of this section and also requested by Senate Resolution is one with respect to wool knit gloves and mittens. Public hearings have been held in both of these cases and the reports on these investigations are in progress.

Since the passage of the existing tariff law, 26 duties have been increased under the provisions of this section, and 31 decreased, and 108 investigations have been ordered, 82 of which have been completed or otherwise disposed of. The one investigation resulting in a change in duty during the past year related to beer. The President, acting on this report, proclaimed a decrease in the rate of duty on ale, porter, stout, and beer from $1 per gallon ($31 per barrel) to 50 cents per gallon. The change in duty became effective Feb. 15, 1935. Since imported beer is not subject to the internal revenue tax of $5 per barrel which is levied on the domestic product, in effect the protection afforded under the new duty is $10.50 per barrel.

Litigation under Section 336.—In April, 1935 the Court of Customs and Patent Appeals rendered a decision nullifying the action of the President in increasing duties on certain prism binoculars after an investigation by the Commission of foreign and domestic costs of production. The court held among other things that the type of prism binoculars included in the President's proclamation was not the type referred to in the notice of the Commission's investigation, and that the investigation was not confined to the matters contained in the public notice relating thereto. Although the Tariff Commission has been operating under the present or similar provisions of law for the past 15 years, this is the first decision in which the Court has not upheld the President's action upon the Commission's reports.

Alleged Unfair Methods of Competition (Section 337).—Since the passage of the present tariff act there have been nine investigations ordered under the provisions of Section 337, which authorizes the Commission to investigate alleged unfair methods of competition in the importation or sale of an article in the United States. If it is found that such unfair methods exist, the President may direct the Secretary of the Treasury to refuse entry of the article in question. Final orders have been issued as a result of five of the Commission's investigations. These relate to slide fasteners, parts of slide fasteners, oxides of iron, cigar lighters (automatic - Ronson type), and drive springs, (the last has expired). The section provides that importers or consignees have a right to file an appeal, within 60 days, with the Court of Customs and Patent Appeals from the findings of the Commission. In the case of an investigation with respect to phosphates and apatite, such appeal was filed and the court reversed the Commission's findings. This is the only such judicial action since the existence of this kind of provision, which first appeared in the Tariff Act of 1922. Investigations under this section with respect to coilable metal rules and cigar lighters of double spin wheel type are pending.

ACTIVITIES UNDER SECTION 3(e) OF THE NATIONAL INDUSTRIAL RECOVERY ACT

Termination of Investigations.—Section 3(e) of the National Industrial Recovery Act authorized the President to direct the Tariff Commission to conduct investigations to ascertain whether articles investigated were being imported into the United States in sufficient quantities to render ineffective or endanger the maintenance of a code of fair competition. The Supreme Court decision on May 27, 1935 concerning the constitutionality of this act caused the termination of investigations under the provisions of Section 3(e). It may be, however, that should the President approve voluntary agreements under the National Industrial Recovery Act as amended, activities under this section would be renewed. In June, 1935 the President directed the Secretary of the Treasury to discontinue the assessment of the fees on articles upon which investigations were completed under this section and action taken as a result of the investigation because it was found that the conditions which led to the imposition of the fees no longer existed. (See THE AMERICAN YEAR BOOK, 1934, p. 494.)

Section 22, Agricultural Adjustment Act as Amended.—The Agricultural Adjustment Act as amended in August, 1935 includes Section 22 which authorizes the President to direct the Tariff Commision to conduct investigations on articles which he has reason to believe are being imported into the United States under such conditions and in sufficient quantities as to render ineffective or materially interfere with any program or operation undertaken under this Act. To date no investigation has been ordered under this section.

ACTIVITIES UNDER THE TRADE AGREEMENTS ACT

In June 1934 the Congress passed a law as an amendment to the Tariff Act of 1930 authorizing the President to negotiate trade agreements with foreign countries. This law designated the Tariff Commission as one of the agencies of the Government from which the President should secure information and advice in connection with these negotiations. The work under this trade agreements program has exceeded all other upon which the Commission has been engaged during the past year. These activities involve an expansion of the work heretofore done by the Commission. The Commissions' experts, who assisted Congress at the time of tariff revision, are now engaged in making specialized studies in preparation for trade agreements. Among the problems they must consider are the probable international effects of tariff changes proposed, the value of proposed concessions, the country which, because of geographic position or economic reasons, is likely to benefit mostly from a change in duty, and the effect on American interests.

Three principal interdepartmental committees have been established to supervise, coordinate and review the work of the trade agreements program. These committees are the Executive Committee on Commercial Policy, the Committee on Trade Agreements, and the Committee for Reciprocity Information. The Tariff Commission is represented on all three of these committees as well as on some 30 sub-committees dealing with countries, commodities, and special problems such as quota regulation and exchange control which have to be considered in connection with these reciprocal trade agreements. The first of these committees was created by the President to handle procedure in matters anyway connected with the foreign commercial policy of the United States and to advise the President. Three tariff commissioners are members of this Committee. The Committee on Trade Agreements was established at the instance of the Secretary of State to coordinate the activities of the several agencies of the Government in the trade agreements program and to advise on matters of policy. This Committee is supervised by the Secretary of State. The Committee for Reciprocity Information was established by order of the President to carry out the provision of the law giving interested parties opportunity to present views. Those who wish to present information in connection with a trade agreement submit it to this committee and are also permitted to present oral testimony at a public hearing. The Committee consists of representatives of the Departments of State, Agriculture, and Commerce, the National Recovery Administration, and the Tariff Commission. Thomas Walker Page, Vice Chairman of the Tariff Commission, is chairman of this Committee. The Tariff Commission has cooperated by making available to this Committee the necessary office space and its hearing room. The staff of the Committee is also made up of personnel of the Tariff Commission who, while so assigned, are paid from an appropriation provided by the Congress for carrying out the provisions of the Trade Agreements Act. The following table indicates the countries with which negotiations have been undertaken and the status of each.

COUNTRIES FOR WHICH TRADE NEGOTIATIONS HAVE BEEN ANNOUNCED

Country	Date notice of intention to negotiate	Latest date for submitting written statements to the Committee for Reciprocity Information	Date for oral presentation of views before Committee for Reciprocity Information	Present status
	1934	1934	1934	
Cuba	July 3	July 21	July 23	Agreement effective September 3, 1934
Brazil	August 31	October 15	October 22	Agreement effective Jan. 1, 1936
Haiti	August 31	October 8	October 15	Agreement effective June 3, 1935
Belgium	September 4	October 22	October 29	Agreement effective May 1, 1935
Colombia	September 5	October 8	October 15	Agreement signed but not yet approved by Colombian Legislature
Costa Rica	September 7	October 15	October 22	Pending
Guatemala	September 7	October 15	October 22	Pending
Honduras	September 7	October 15	October 22	Agreement signed but not yet approved by Legislature of Honduras
Nicaragua	September 7	October 15	October 22	Pending
Salvador	September 7	October 15	October 22	Pending
Sweden	September 10	October 29	November 5	Agreement effective August 5, 1935
Spain	September 17	November 5	November 12	Pending
Switzerland	October 23	December 10	December 17	Agreement effective Feb. 15, 1936
		1935	1935	
The Netherlands, including Netherland India, Netherland Guiana, and Netherland West Indian Islands	December 12	January 28	February 4	Agreement effective Feb. 1, 1936
Finland	December 19	February 4	February 11	Pending
	1935			
Italy	January 16	March 4	March 11	Pending
Canada	January 21	March 11	March 18	Agreement effective Jan. 1, 1936
France and its colonies, dependencies, and protectorates other than Morocco	April 30	June 17	June 24	Pending

XIII. MANUFACTURES AND TRANSPORTATION

ADMINISTRATION OF THE TARIFF LAWS

BY ELI FRANK, JR.

CHIEF COUNSEL, BUREAU OF CUSTOMS, TREASURY DEPARTMENT

CUSTOMS COLLECTIONS

The total customs receipts for the fiscal year 1935 amounted to $343,353,000, an increase of $29,919,000 over those for the preceding year. Of this amount $41,036,000 was collected on imported liquor. Sugar importations during 1935 showed a marked increase, a total of 2,774,700 short tons being imported, which is more than double the amount imported during the preceding year. Heavy importations of grains, feed stuffs, live cattle, fresh meat, butter, and butter substitutes were made during the year. Previously importations of these classes of commodities were made in relatively small quantities. During the year approximately $36,194,000 in duties on the foregoing classes of imports was collected, or more than six times the amount collected on similar commodities during the previous fiscal year. The statement, page 479, shows in detail the customs collections, refunds, and payments of drawback claims for the fiscal years 1934 and 1935:

CUSTOMS RECEIPTS AND REFUNDS

(Fiscal Years 1934 and 1935)

	1934		1935	
Receipts:				
Duties		$313,093,728		$344,941,758
Miscellaneous:				
Sale of unclaimed merchandise and abandoned goods	$133,351		$ 76,281	
Fines and forfeitures	485,826		810,957	
Liquidated damages	200,524		212,193	
Sale of seizures	88,249		165,441	
All other customs receipts	91,830		48,094	
Total miscellaneous		999,780		1,312,966
Total receipts		$314,093,508		$346,254,724
Refunds:				
Excessive duties	5,849,243		7,217,114	
Drawback payments	8,076,988		13,813,853	
Total refunds		13,926,231		21,030,967
Net customs receipts		$300,167,277		$325,223,757

VOLUME OF BUSINESS

Entries of Merchandise.—The number of entries of merchandise for the second successive year showed a substantial increase over the preceding year, advancing from 2,140,414 in 1934 to 2,399,263 in 1935, an increase of 12.1 per cent. All types of entries were included in this increase and, with the single exception of mail entries, the number was greater than that reported for 1933. The following statement presents in detail the number of entries for the fiscal years 1934 and 1935:

Vessel, Highway, and Aerial Traffic.—The general increase in customs activities is further shown by the available traffic data. Vehicular traffic of every kind over the international boundary line was in excess of that for the preceding year with the exception of passenger trains. Although there was a decline in the number of passenger trains, there was a substantial increase in the number of passengers

NUMBER OF ENTRIES OF MERCHANDISE

Class of Entries	1934	1935	Per cent of Increase
Consumption			
Free	158,948	164,662	3.6
Dutiable	264,355	284,317	7.6
Warehouse and rewarehouse	53,404	55,763	4.4
Mail	447,452	475,445	6.3
Baggage	393,977	418,403	6.2
Informal	146,451	188,135	28.5
Appraisement	20,366	20,754	1.9
Immediate transportation without appraisement	80,304	83,087	3.5
Transportation and exportation	74,553	100,615	35.0
Warehouse withdrawals	257,506	323,473	25.6
All other entries	14,562	20,641	41.7
Drawback notices of intent	211,217	244,591	15.8
Drawback entries	17,319	19,377	11.9
Total entries	2,140,414	2,399,263	12.1

arriving by train. However, the largest ratio of increase was in airplane traffic. The number of airplanes showed an increase of 10.8 per cent, with an increase of 37.5 per cent in the number of passengers carried. A total of 41,730,352 persons entered the United States during 1935 and were subjected to the usual customs formalities. As compared with 1934, this figure shows an increase of 5.2 per cent.

NUMBER OF VEHICLES AND PERSONS ENTERING THE UNITED STATES

(Fiscal Years 1934 and 1935)

	1934	1935	Per cent of Increase 1934-1935*
Vehicles			
Automobiles and buses	8,929,186	9,293,535	4.1
Documented vessels	27,308	28,763	5.3
Ferries and other vessels	188,402	189,683	.7
Passenger trains	38,420	35,836	(−) 6.7
Airplanes	4,347	4,816	10.8
Other vehicles	308,363	323,952	5.1
Total	9,496,026	9,976,585	4.1
Passengers, by			
Automobiles and buses	24,052,731	25,604,405	6.5
Documented vessels	754,190	811,665	7.6
Ferries and other vessels	2,809,658	2,626,283	(−) 6.5
Passenger trains	905,021	936,538	3.5
Airplanes	19,624	26,995	37.6
Other vehicles	1,502,368	1,548,857	3.1
Pedestrians	9,635,860	10,174,956	5.6
Total	39,679,452	41,730,352	5.2

* Minus sign (−) denotes decrease.

Seizures.—Although the number of seizures for violations of the customs laws showed a marked decline during 1935, the value of such seizures was $1,066,204, 95.6 per cent in excess of that for 1934. The total number of seizures made during the year was only 20,896 as compared with 38,841 during the previous year. The greatest decrease was in the number of liquor seizures, the total number made during the year being only 5,224 as compared with 11,721 for the previous year. It is obvious that the decline in the number of liquor seizures is due to the repeal of the Eighteenth Amendment. The value of all seizures made during the year was $2,403,910, of which $22,214 represented the value of illicit malt and fermented liquor. There was also a sharp decline in the number of lottery seizures for the fiscal year 1935, 22,883 such seizures having been made in 1934 and only 9,313 during 1935. There were 4,448 merchandise seizures during the year, as compared with 3,057 for the preceding year, with a corresponding increase in value from $227,104 to $307,712. Among the merchandise seizures may be listed 714 automobiles, 99 boats, and 6 airplanes, with an aggregate value of $390,828. The total value of narcotic seizures made during the year was $65,663 as compared with $40,869 for the preceding year.

Fines and Penalties.—The fines and penalties collected for violations of laws enforced by the Customs Service aggregated $1,190,958 for the fiscal year 1935. Approximately one-third of these fines were for undervaluation and false invoicing. Penalties for failure to declare foreign merchandise constituted only 5 per cent of the total fines collected, whereas in 1933 and previous years they constituted from one-fourth to one-half of the total fines collected. Sales by court orders yielded $274,961 in 1935, almost seven times the amount realized from this source during the previous year.

SMUGGLING

Outstanding Cases.—The activity and vigilance of customs officers resulted in the detection and suppression of much illicit traffic in narcotics, lottery tickets, and other contraband. Inasmuch as the hundreds of investigations conducted by the Customs Service are too numerous to enumerate, only a few of the more exceptional ones will be mentioned. One investigation of particular note was that of the smuggling of grain and its subsequent delivery to the various elevators contiguous to and in the vicinity of the international boundary line. As a result of this investigation it developed that approximately 22,000 bushels of wheat, valued at $27,000, had been smuggled into the United States. Another uncovered a major conspiracy case involving the smuggling of 90,000 pounds of butter over the international boundary between Canada and the United States. Criminal proceedings were instituted against six individuals in this case. Numerous investigations into the smuggling of lottery tickets and foreign sweepstakes were made, one of particular note being effected at Philadelphia where 600,000 tickets, having a sales value of $900,000, were found concealed in a shipment of baled rugs. As a result of an extensive investigation of a large Canadian distillery company for the smuggling of liquor into the United States prior to the repeal of the Eighteenth Amendment, two of its controlling officers were arrested and released after posting bonds in the amount of $100,000 each. These bonds were later forfeited for failure to appear for a hearing in accordance with the terms of their release.

New Legislation.—Many Acts were passed by the 74th Congress affecting Customs either directly or indirectly. Of outstanding interest is the Anti-Smuggling Act, approved August 5, 1935, which was enacted for the purpose of protecting the revenue of the United States, to provide measures for the more effective enforcement of the laws respecting the revenue, to prevent smuggling, to authorize customs-enforcement areas, and for other purposes. This Act amended several provisions of the Tariff Act of 1930, viz: Sections 401, 434, 436, 441, 581, 584, 585, 586, 587, 591, 592, 615, 619, and 621. For many years those responsible for the enforcement of the Customs laws had sought passage of legislation, or ways and means of enabling the Government to cope more effectively with liquor smuggling along our sea coasts. Prior to the passage of the Anti-Smuggling Act it was common practice for the vessels of various nations to hover off our coasts beyond the three-mile limit awaiting contact with highspeed motor boats which would carry their cargo to the shore. The boats carrying the liquor were preceded by so-called pilot boats which were driven in advance of the boats carrying the liquor and if stopped would be found to have no contraband and to be guilty of no violation. In the meantime the liquor-carrying boat escaped. The Anti-Smuggling Act now gives law-enforcing officers more power in dealing with this situation, by providing that "Whenever the President finds and declares that at any place or within any area on the high seas adjacent to but outside customs waters any vessel or vessels hover or are being kept off the coast of the United States and that, by virtue of the presence of any such vessel or vessels at such place or within such area, the unlawful introduction or removal into or from the United States of any merchandise or person is being or may be occasioned, promoted, or threatened, the place or area so found and declared shall constitute a customs-enforcement area for the purposes of this Act. Only such waters on the high seas shall be within a customs-enforcement area as the President finds and declares are in such proximity to such vessel or vessels that such unlawful introduction or removal of merchandise or persons may be carried on by or to or from such vessel or vessels. No customs-enforcement area shall include any waters more than one hundred nautical miles from the place or immediate area where the President declares such vessel or vessels are hovering or are being kept and, notwithstanding the foregoing provision, shall not include any waters more than fifty nautical miles outwards from the outer limit of customs waters."

Regulations for the proper enforcement of the Act have been promulgated since its approval.

CHANGES IN CUSTOMS REGULATIONS ON MARKING

Although the requirement for the marking of imported articles to indicate the country of origin has appeared in every tariff act since that of 1890, hundreds of questions as to the proper marking under this statute are constantly arising, many of which are carried to the courts for their determination. The first provision for marking, that appearing in the Tariff Act of 1890, required "all articles of foreign manufacture, *such as are ordinarily* marked, stamped, branded, or labeled, and all packages containing such or other imported articles" to be plainly marked, stamped, branded, or labeled in legible English words to indicate the country of origin; and unless they were so marked, stamped, branded, or labeled, they were not to be admitted to entry. This provision was repeated in the Acts of 1894 and 1897. In the Act of 1909 the language was changed to require the marking to indicate the country of origin of all article of foreign manufacture or production which were capable of being marked, stamped, branded, or labeled "without injury", and further required that the marking should be in a conspicuous place and "as nearly indelible and permanent as the nature of the article will permit."

A further provision was added to the Act of 1909 making it a criminal offence to "deface, destroy, remove, alter, or obliterate any such mark, stamp, brand, or label", with intent to conceal the information given thereby. This provision has appeared in all subsequent tariff acts. The Tariff Act of 1922 added another provision that if the articles were not marked at the time of importation in accordance with the requirements of the statute an additional duty of 10% should be assessed unless the articles were exported. This so-called "penalty" provision provided that: "If at the time of importation any article or its container is not marked, stamped, branded, or labeled in accordance with the requirements of this section, there shall be levied, collected, and paid on such article, unless exported under customs supervision, a duty of 10 per centum of the value of such article, in addition to any other duty imposed by law, or, if such article is free of duty, there shall be levied, collected, and paid a duty of 10 per centum of the value thereof."

From the passage of the Tariff Act of 1922 until May 2, 1934, this additional duty for failure to mark was construed to apply unless both the article and its container were marked. On

May 2, 1934, the United States Court of Customs and Patent Appeals ruled that the ordinary meaning of this language is not that both article and container must be marked or an additional duty will accrue, but that if one or the other is marked the importation is not subject to this added duty. To comply with this ruling the Customs Regulations were amended.

Another important amendment to the marking regulations was that of Article 513(a)(4) of the Customs Regulations to exempt from marking books, maps, music, engravings, photographs, etchings, lithographic prints and charts which have been printed more than 20 years at the time of importation and are free of duty under paragraph 1629 of the Tariff Act. Still another amendment provides that the marking of containers of merchandise which is to be manufactured or processed by the importer, or for his account, is sufficient to indicate the country of origin and the merchandise itself should not be required to be individually marked.

FOREIGN-TRADE ZONES

On June 29, 1935, regulations governing the establishment, operation, maintenance, and administration of foreign-trade zones in the United States, were promulgated under the Act of June 18, 1934. The law, as enacted, created a Board consisting of the Secretary of Commerce, as chairman and executive officer, the Secretary of the Treasury and the Secretary of War. In order to relieve the Cabinet officers of the administrative details, a Committee of Alternates was appointed to act for the individual members of the Board. This Committee is required to review and prepare all matters for presentation to the Board, to hold such hearings and re-hearings as the chairman of the Board shall direct and to perform all other duties designated by the Board except those specifically imposed by the law on the Board itself.

Foreign-trade zones are designed particularly to encourage re-export trade. Commodities within the zones are free from the usual customs regulations. The Act defines a zone as an isolated, enclosed and policed area, in or adjacent to a port of entry, with or without resident population, excepting administrative personnel. It is operated as a public utility under Federal supervision. The zone must be furnished with necessary facilities for loading, unloading, storing and manipulating merchandise. Merchandise may be unloaded, stored, broken up, repacked, assembled, distributed, sorted, graded, cleaned, mixed with foreign or domestic merchandise, or otherwise manipulated and exported but not manufactured nor exhibited. The aim of the plan is to foster dealings in foreign goods that are received for reshipment to foreign markets either in the condition in which received or after combining with domestic merchandise previous to exportation. The regulations propose to eliminate many of the restrictions necessarily imposed on goods under customs supervision, in order to attract increased trans-shipment trade to United States ports.

An application for the establishment of a foreign-trade zone has been filed by the Municipality of New York, the zone to be established and operated at Stapleton, Staten Island. Hearings on this application were begun at New York on Nov. 12, 1935.

COUNTERVAILING DUTIES

Bounties have been granted from very early times and have consisted both of the payment of duties out of the public treasury or a grant by the Government of special privileges. The first attempt to off-set the effect of bounties paid by foreign governments by levying a countervailing duty appeared in the Tariff Act of Oct. 1, 1890, and applied only to sugars above No. 16 Dutch Standard and was applicable to any sugars imported from countries that paid a bounty directly or indirectly on the exportation of sugar. The next Act, that of Aug. 27, 1894, extended the countervailing duty provision to all articles exported from any country which bestowed directly or indirectly any bounty or grant upon the exportation of any article of merchandise from such country. This same provision was included in the Acts of Aug. 5, 1909, and Oct. 3, 1913, without change. The Act of 1922 extended the provision to include, not only articles from a country in which a governmental bounty was granted on their manufacture or production but also to articles which had received unofficial bounties or grants from persons, partnerships, associations, or corporations. The only change made in the Act of 1930 was to authorize the Secretary of the Treasury to estimate the bounty instead of actually ascertaining the amount of bounty paid. This change was made because the 1922 Act required the Secretary to ascertain the net amount of any bounty, which requirement had been found impracticable in some instances owing to the complexity of foreign practices.

TRADE AGREEMENTS

The active prosecution of the executive reciprocal trade agreement program has resulted in agreements being reached with Belgium and Luxemburg, Sweden, Haiti, Canada, and Brazil in addition to the Cuban agreement already consummated at the time of the publication of THE AMERICAN YEAR BOOK for 1934.

From the point of view of the administrator of United States tariff laws the significant feature of these agreements has been, of course, the large number of changes of rates of duty and the small number of subclassifications introduced by these agreements.

For the most part these changes in duty apply not only to articles of the growth, produce or manufacture of the signatory nation but are extended generally to all nations with which the United States is on a most-favored-nation basis. The situation with respect to which nations will lose this treatment is not as yet crystallized. Germany has, however, already been removed from the list of nations to which these concessions are automatically generalized.

RAILROADS

BY J. J. PELLEY

PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS

THE YEAR'S MAJOR DEVELOPMENTS

Developments of major significance to the steam railroad industry in the United States during the year 1935 were: 1. A sharp upturn in traffic and revenue trends during the last five months of the year; 2. Increased operating expenses, occasioned by higher labor and supply costs; 3. Temporary freight rate increase, authorized by the Interstate Commerce Commission, effective April 18; 4. Increased mileage in hands of receivers or trustees; 5. Enactment of Railroad Retirement Act, 1935, with its companion tax measure; 6. Enactment of other legislation affecting operating costs; 7. Legislative program before Congress sponsored by railway labor organizations; 8. Enactment of Motor Carrier Act; 9. Continued progress in air-conditioning, stream-lining, use of light-weight material, etc., in passenger equipment, and 10. Greater efficiency of and improvements in freight service.

CURRENT TRENDS

Traffic and gross revenues during the first seven months of 1935 followed a sluggish course, fluctuating within a narrow range slightly below the levels of the corresponding months of the preceding year. Operating expenses during the same months, however, ran consistently greater than in 1934, due to the higher levels of labor and materials costs. As a result, the net operating income of Class I railways was 15 per cent less during the first seven months of 1935 than during the corresponding period of 1934. The net deficit after interest and other fixed charges for the same period of 1935 was considerably greater than in 1934.

Beginning with August, the trend of freight loadings turned upwards and continued at higher levels throughout the remainder of the year. Gross revenues during the last five months of 1935 increased 12 per cent over 1934. Net operating income for the five months increased by nearly 40 per cent, while the net deficit after charges was reduced from $78,000,000 at the end of July to about $15,000,000 at the end of the year.

The following table summarizes the operating income account of Class I railways for the years 1930, 1934 and 1935.

	1930 (millions)	1934 (millions)	1935 (millions)
Total operating revenues	$5,281	$3,272	$3,440
Total operating expenses	3,931	2,442	2,575
Taxes	349	240	238
Net railway operating income	869	463	500
Operating ratio	74.4%	74.6%	74.9%

A continuation of present traffic and revenue trends in 1936 is indicated at this time. Leading forecasters are predicting a generally higher level of business activity throughout the nation in 1936. If this be realized, the railroad industry may expect a volume of traffic in the coming year approximately at the 1931 level, which would be 30 per cent below the peak period, 1926 to 1929. Even on such a reduced level of traffic, rail carriers as a whole can earn their interest and other fixed charges, provided that operating costs are not unduly increased through legislative or other outside influences.

OPERATING COSTS

During the period of lowest traffic and gross revenues, 1932 and 1933, the railroads were, in the words of the Interstate Commerce Commission, ''surprisingly successful in reducing their operating expenses in a ratio reasonably close to the reduction in operating revenues.'' Two factors of considerable weight in this result were: (1) the agreement between management and men for a 10 per cent wage deduction from basic rates of pay, effective Feb. 1, 1932, and (2) the comparatively low level of unit prices of railroad fuel and other supplies.

The wage agreement was twice renewed but finally expired on June 30, 1934. A new agreement provided for the restoration to pay checks of one-fourth of the 10 per cent deduction beginning July 1, 1934, another one-fourth was restored on Jan. 1, 1935, and the remaining one-half on April 1, 1935. Approximately $20,000,000 was added to railway operating expenses in 1934, an additional $130,000,000 in 1935, and a further $10,000,000 will be added in 1936, by this restoration of basic rates of pay to employees.

Prices paid by the carriers for coal and other materials and supplies increased about 20 per cent from the spring of 1933 to the middle of 1934. The annual increase in operating costs resulting from these increased prices, due to operation of NRA codes and to general economic and financial trends, is calculated at $125,000,000.

Thus the two factors of lowered operating cost, which were effective during 1932 and 1933, have now disappeared, and the carriers are faced with a higher level of costs, which can be met only by increased revenues.

FREIGHT RATE INCREASE

As a partial offset to increased labor and supply costs, the Interstate Commerce Commission granted a temporary increase in freight rates, effective April 18, 1935, which expires by limitation on June 30, 1936. It was estimated that the increased rates would increase operating revenues by approximately $85,000,000 annually if made effective on intrastate as well as on interstate traffic. However, this was not wholly achieved, and the increase in revenues has been less than the approximated figure.

The pick-up in the volume of business in the last five months of 1935, plus the temporary increases in rates, enabled the carriers to absorb the increased costs occasioned by higher labor and supply costs and to maintain a *status quo* in the net financial result for the year. As the increased rates expire on June 30, 1936, only a further increase in traffic will maintain the present relationship between revenues and expenses.

SHORT-TERM FINANCING

The *status quo* in net financial results, referred to above, is not a satisfactory condition. Class I railways as a group reported a net deficit in 1932, after interest and other fixed charges, aggregating $139,200,000. In 1933, the net deficit amounted to $5,900,000. Although gross revenues increased by $176,000,000 in 1934 over 1933, the net deficit in 1934 rose to $16,900,000. A further increase in gross revenues of $168,000,000 in 1935 produced but slight change in the net deficit, the figure approximating $15,000,000 for that year.

Due to the shortage in net earnings, the railroads have of necessity resorted to much temporary, or short-term, financing, largely through governmental agencies set up for that purposes. Since the beginning of the year 1932, railroads have borrowed $487,122,572 from the Reconstruction Finance Corporation, $184,013,500 through the Public Works Administration, and $73,691,000 through their own Railroad Credit Corporation, a total of nearly $750,000,000. To date a little over $100,000,000 of those loans have been repaid, leaving outstanding at the close of the year 1935 about $640,000,000.

Such methods of financing cannot be continued indefinitely. The pressing need of the carriers now is not new sources from which to borrow money, but rather increased earnings with which to pay off maturing short-term loans. Such earnings are in prospect if the current trend in gross revenues maintains its present upward course. But increased operating costs are also in prospect, threatening to absorb all or most of the prospective increase in gross revenues. Enactments of the 1935 session of Congress will, when fully effective, add more than $100,000,000 annually to railroad operating expenses. It is not known at this time what, if any, legislation affecting railroad expenses will come out of the 1936 session of Congress. Railway labor organizations sponsored a far-reaching program before the 1935 session, which remains on the 1936 calendar of Congress, and which may result in legislation. This program will be briefly reviewed at a later point.

RECEIVERSHIPS AND TRUSTEESHIPS

At the close of the year 1935, 89 railroad companies were in the hands of receivers or trustees, a net increase of 28 companies during the year. The number of Class I companies in receivership or trusteeship totaled 33, operating 68,399 miles of line or 27.8 per cent of the total Class I mileage of the country. None of the 33 companies went into the hands of the courts in 1935, one went in in 1934, 12 in 1933, three in 1932, and eight prior to 1932.

RAILROAD RETIREMENT ACT, 1935

The Supreme Court of the United States handed down a majority opinion in May, 1935, upholding the decision of a lower court which had declared unconstitutional the Railroad Retirement Act of 1934. Immediately after this decision was announced, proponents of a compulsory pension system for railway employees drafted new legislation, designed for the same purpose but drawn up differently in an effort to get around the findings of the Supreme Court.

The new legislation took the form of two acts, one providing for the payment out of United States Treasury funds of annuities to retired railroad employees, the other levying taxes on employees earnings and on railroad payrolls. In theory, the two acts are unrelated, as neither refers in any way to the other. As a practical matter, however, the tax measure is for the express purpose of reimbursing the Treasury for annuity payments.

Tax accruals begin on March 1, 1936, the levy being 3½ per cent on individual employee earnings, and 3½ per cent on railroad payrolls, a total of seven per cent. Individual compensation in excess of $300 per month is exempt from both taxes. The tax on employee earnings will be deducted from pay checks and will be transmitted to the Treasury, together with a like amount levied on the total payroll, by the employer. Annuity payments to retired employees are scheduled to begin 90 days after March 1, 1936.

The cost to the railroads of the tax measure will approximate $58,000,000 annually, on the basis of current payroll levels. Employees will contribute a like amount. The railroads challenged both acts in the courts early in January, 1936.

LEGISLATION INVOLVING OTHER TAX BURDENS

The Social Security Act, 1935, sets up a series of tax levies on employee earnings and on industrial payrolls for the purpose of supporting a system of old-age annuities and unemployment insurance for industrial workers. By the terms of the Railroad Retirement Act, 1935, railroads are exempted from the old-age annuity provisions of the Security Act. The railroads are not exempted, however, from the unemployment insurance feature and are liable for a tax of one per cent on payrolls in 1936, two per cent in 1937, and three per cent in 1938 and thereafter. On the basis of current payroll levels, the cost of this tax to the railroads will approximate $16,000,000 in 1936, $32,000,000 in 1937, and $48,000,000 per year thereafter.

The Bituminous Coal Conservation Act, 1935, commonly referred to as the Guffey-Snyder Act, together with wage adjustments in the coal industry, will add to the annual fuel bill of the railways. The Revenue Act of 1935, which graduated the income tax rate, will increase the Federal income tax paid annually by the railroads. In addition, the increase of 42 per cent in the rate of tax on capital stock, which was enacted by Congress, will add a further burden to the annual tax bill of the carriers.

RAILWAY LABOR BILLS

Railway labor organizations are sponsoring a far-reaching legislative program before Congress at the present time. During the 1935 session, eight bills were introduced into both Houses on behalf of the railway labor organizations. These bills, if enacted into law, would increase railway operating costs, on the basis of current traffic levels, by approximately $750,000,000 annually.

Hearings on six of the eight bills were held during 1935 by a subcommittee of the Senate Committee on Interstate Commerce. No report was made by the Committee during the 1935 session, but the bills remain on the 1936 calendar and may receive further consideration during the coming session.

The eight bills, among other things, are designed to establish a six-hour day for railway employees, to limit the length of freight trains, to increase the number of men in the crews of certain types of freight and passenger trains, to limit the hours of service within any 24-hour period, and to provide a dismissal wage for employees who may be separated from railway service.

MOTOR CARRIER ACT, 1935 AND PENDING BILLS

The Motor Carrier Act, 1935, for the first time places commercial motor vehicles, except private carriers, haulers of farm products and newspapers, operated in interstate commerce, under the regulatory supervision of the Interstate Commerce Commission. A separate unit of the Commission has been set up to carry out the provisions of the Act, and will function under broad powers. The railways look with interest on this forward step toward a unified system of transportation regulation.

A similar bill designed to bring water carriers under the regulatory supervision of the Commission did not reach a vote during the first or 1935 session of Congress. The bill remains on the 1936 calendar.

A bill designed to eliminate the long-and-short-haul clause of the Interstate Commerce Commission was unanimously reported out of committee in the House of Representatives during the 1935 session. This bill, commonly referred to as the Pettengill bill, will undoubtedly be again considered during the 1936 session.

FEDERAL COORDINATOR OF TRANSPORTATION

The office of Federal Coordinator of Transportation, created by the Emergency Railroad Transportation Act, 1933, was continued for a third year by act of Congress approved June 14, 1935. The railways bear the cost of the Coordinator's office, each contributing at the rate of two dollars per mile of line, or an aggregate of about $500,000 annually.

The Coordinator, during his tenure of office, has issued three major reports recommending legislation designed to improve transportation conditions generally. These recommendations have received and will receive considerable attention in Congress. The Motor Carrier Act, 1935, was first drafted and recommended by Coordinator Eastmen. The bill to regulate water carriers was also drawn up and is recommended for passage by Mr. Eastman.

The staff of the Coordinator's office has conducted extensive research into many phases of railroad operation and management. Reports of the findings of these studies have been transmitted by the coordinator to the Regional Coordinating Committees, composed of representatives of railway management, for consideration and recommendation.

ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads completed in 1935 its first full year in its present form. In addition to continuing the work of its predecessor organizations, the Association has entered new fields where cooperative effort under a single directing unit is calculated to produce the best results. Never before in the history of transportation in this country have the railroads attacked their problems along more unified lines.

With the approval of the Federal Coordinator, the Association has taken over from the Regional Coordinating Committees the further study of several of the reports of the Coordinator's staff. Included among these are the car-pooling, merchandise traffic, terminal unification, passenger traffic, and carload freight traffic studies.

The Association on May 1, 1935, put into effect the so-called ''average per diem'' plan for settlement of box car hire between individual roads. The plan is designed to reduce the extent of empty box car haul, and during the comparatively short time the plan has been in effect has produced very satisfactory results by reducing the number of empty car-miles.

DEVELOPMENTS IN PASSENGER SERVICE

For the second consecutive year railway passenger traffic increased over the level of the preceding year. The intensive efforts of carriers to regain a part of the passenger traffic lost mainly to highway competitors are apparently bearing fruit.

The problem has been attacked along the lines of increased comforts to the passenger, greater speed of trains, reduced fares, and further safeguards against accidents. Experiments with streamlined, light-weight equipment, capable of greater speeds between terminals and operating at less cost than the heavier steam-operated trains, have proven highly attractive, and this kind of service will undoubtedly be extended in the next few years. Air-conditioning of coaches and Pullman cars has been another important factor in the improved passenger service now operated by the railways. The comfort and cleanliness of travel in air-conditioned railway cars has had a marked effect on the appeal of railway service.

The problem of passenger fares is a complex one and varies in different sections of the country. The Interstate Commerce Commission conducted an extensive investigation into this subject during 1935, and a decision is expected early in 1936. Many railroads have produced highly successful results in experiments with reduced passenger fares; others, because of differing conditions, have not found reduced fares practicable on their lines.

The year 1935 marked new accomplishments in the safety of railroad travel. Although official records for the year are not yet available, it is believed that the carriers operated the full year without a single fatality to a passenger in a train accident.

FREIGHT SERVICE

Freight services offered by the carriers during 1935 improved upon the efficient levels of previous years. This is particularly true of average speed of movement. In every year since 1923, the average speed of freight trains between terminals has increased over the preceding year, rising during the period from an average of 10.9 miles per hour in 1923 to an average of 16 miles per hour in 1935, an increase of 46.8 per cent.

Combining the factor of speed with the factor of increased weight of the average train, the improvement in efficiency of operation since 1923 is even more striking. Gross ton-miles per freight train-hour rose from 16,764 in 1923 to about 28,800 in 1935, an increase of 71.8 per cent. Net ton-miles per freight train-hour increased from 7,770 in 1923 to about 11,725 in 1935, an improvement of 50.9 per cent.

Not only did the carriers offer speedier and more reliable freight services during 1935, but they also extended their efforts to improve upon the attractiveness of shipping by rail. Such matters as convenient scheduling of trains to conform with shippers' needs, extension of collection and delivery services, experiments with the use of freight containers, and like matters looking toward the general betterment of services received much attention during the past year.

STATISTICS OF RAILWAY OPERATIONS

Freight Traffic.—Revenue carloadings of freight averaged slightly more than one million cars per week during the five-year period, 1925 to 1929. The average declined gradually to a depression low of 542,000 cars per week in 1932, and increased slightly each year thereafter to an average of 606,000 cars per week in 1935. The 1935 average was an increase of 11.8 per cent over the depression low of 1932, and in increase of 2.2 per cent over 1934.

Revenue per ton-mile in 1935 increased slightly over 1934, but remained for the third successive year below one cent. The slight increase in 1935 resulted from the temporary increase in freight rates granted in April.

	1930	1934	1935
Revenue carloadings (000)	45,717	30,846	31,518
Revenue ton-miles (000,000)	383,450	268,711	281,000
Average revenue per ton-mile (cents)	1.063	0.978	0.980

Passenger Traffic.—Revenue passenger-miles of Class I railways declined steadily each year from 1923 through 1933, the level in 1933 being 57 per cent below the level of 1923. For the first time in 11 years, passenger-miles in 1934 recorded an increase over the preceding year, rising by 10.4 per cent. Again in 1935 an increase was recorded, the rate of increase over 1934 being two per cent. The total for 1935 was 42 per cent under the level of the five-year period 1925 to 1929, but was 12.6 per cent above the 1933 low.

Revenue per passenger-mile for the second consecutive year remained below the level of two cents, although increasing slightly over the average of the preceding year. The slight in-

	1930	1934	1935
Revenue passenger-miles (000,000)	26,815	18,033	18,400
Average revenue per passenger-mile (cents)	2.717	1.918	1.930

crease in 1935 was occasioned by elimination of some special rates temporarily installed during 1934. Many reduced rates were continued in 1935, however.

Operating Revenues.—Freight revenue in 1935 increased by 5.5 per cent over 1934, while passenger revenue increased by 2.6 per cent. Total operating revenues aggregated $3,440,000,000 in 1935, an increase of $168,000,000, or 5.1 per cent, over 1934. The total for 1935 was 34.9 per cent below that of 1930.

	1930 (millions)	1934 (millions)	1935 (millions)
Freight	$4,083	$2,634	$2,780
Passenger	730	346	355
Mail	111	91	92
Express	115	54	53
Other	242	147	160
	$5,281	$3,272	$3,440

Operating Expenses.—All the major groups of operating expense, except general expense, increased in 1935 over 1934. Maintenance of way expenses increased 9.3 per cent; maintenance of equipment increased 5.3 per cent; traffic expenses increased 4.5 per cent; transportation increased 6.6 per cent; general and other expenses decreased 8.6 per cent. Total operating expenses aggregated $2,575,000,000, an increase during the year of $133,000,000, or 5.4 per cent. Compared with 1930, the level of expense in 1935 showed a decrease of 34.5 per cent.

Railway tax accruals in 1935 amounted to $238,000,000, a decrease of $2,000,000, or 0.8 per cent, under 1934. Out of every dollar of gross revenues taken in during 1935, 6.9 cents was paid out in taxes to Federal, state, county, and municipal governments.

	1930 (millions)	1934 (millions)	1935 (millions)
Maintenance of way	$ 706	$ 365	$ 399
Maintenance of equipment	1,019	638	672
Traffic	128	89	93
Transportation	1,848	1,164	1,241
General and other	230	186	170
Total	$3,931	$2,442	$2,575

Net Earnings.—After paying operating expenses, taxes, and equipment and joint facility rentals, Class I railways earned a net railway operating income in 1935 of approximately $500,000,000. This was an increase of $37,000,000 or 8 per cent over 1934, but was 42.5 per cent under 1930. The rate of return on property investment was 1.9 per cent in 1935, compared with 1.8 per cent in 1934, and 3.3 per cent in 1930.

After meeting interest and other fixed charges in 1935, a net deficit of $15,000,000 was reported. The year 1935 was the fourth consecutive year in which Class I railways as a group reported a net deficit after charges.

Whereas a net income of $524,000,000 over and above fixed charges was earned in 1930, there were deficits of $139,200,000 in 1932, $5,900,000 in 1933, $16,900,000 in 1934, and about $15,000,000 in 1935.

	1930 (millions)	1934 (millions)	1935 (millions)
Net railway operating income	$869	$463	$500
Rate of return on property investment	3.3%	1.8%	1.9%
Net income or deficit after interest and other charges	inc. $524	def. $17	def. $15

Railway Employees.—The number of men and women on railway payrolls in 1935 averaged 995,000, compared with 1,008,000 in 1934 and 1,488,000 in 1930. Aggregate compensation of employees increased in 1935 by $111,000,000, or 8.7 per cent. Average annual earnings per employee in 1935 were $1,639, an increase over 1934 average earnings of $131 per employee. Hourly earnings in 1935 averaged 68.3 cents, compared with 63.5 cents in 1934 and 67.8 cents in 1930. The increased earnings of employees in 1933 were due principally to the restoration of standard wage scales, to which reference has already been made.

	1930	1934	1935
Average number (000)	1,488	1,008	995
Aggregate compensation (000,000)	$2,551	$1,519	$1,630
Average earnings:			
per year	$1,714	$1,508	$1,639
per hour (cents)	67.8	63.5	68.3

HIGHWAYS

By Thomas H. MacDonald

Chief, Bureau of Public Roads, Department of Agriculture

CONSTRUCTION VOLUME

Road construction work supervised by the Bureau of Public Roads during the fiscal year ended June 30, 1935 continued at the high volume of the preceding year that far exceeded the amount in any previous year. Work was done almost entirely with the grant of $400,000,000 under authority of the National Industrial Recovery Act of June, 1933 and the grant of $200,000,000 under the Hayden-Cartwright Act of June 1934, but small amounts were available from Federal-aid and emergency authorizations of previous years.

The year began with the volume of road construction with Federal funds and employment at an all-time peak, made possible by the funds provided under the National Recovery Act. Construction activity continued large in volume through the fall months, and many projects were brought to completion. With the beginning of the construction season of 1935 work began in considerable amount on projects carried on with Hayden-Cartwright funds but not in sufficient volume to equal the record in the same months of the preceding year, as there was a decrease in the funds available.

The roads built have been constructed under conditions similar to those prevailing last year. They consist of sections on the Federal-aid highway system, extensions of the system into and through cities, and important secondary or feeder roads and sections of main highways through the national forests, parks, and public lands.

EMPLOYMENT RELIEF AND ROAD BUILDING

Efforts to increase employment through the use of Federal funds for road construction began in 1930 when Federal aid for the fiscal year 1931 was increased from $75,000,000 previously authorized to $125,000,000, and a like amount was authorized for each of the fiscal years 1932 and 1933. Subsequently emergency funds of $80,000,000 and $120,000,000 were advanced to the States and were used largely in matching Federal-aid funds.

The suitability of road work as a relief measure and the magnitude of the employment problem were recognized in the National Recovery Act of June 16, 1933, under which $400,000,000 was authorized as a direct grant to the States and $50,000,000 was authorized for roads in federally controlled areas.

Each year shows an increase in employment over the preceding year, and winter employment has been furnished on a scale considered impossible of attainment a few years before.

Directly and indirectly Federal highway activities accounted for more than 5,000,000 man-months of employment. The average full-time direct employment on road work involving Federal funds was 182,605 men, or more than 2,000,000 man-months. Indirect employment has averaged approximately 1.4 times the direct employment or more than 3,000,000 man-months.

All of the work was done with employment as the paramount motive and under regulations requiring establishment by the States of minimum wage rates, the use of lists supplied by the U. S. Employment Service in selection of labor and hours of employment were restricted to 40 hours per week.

COMPLETED AND PENDING PROJECTS

At the beginning of the fiscal year on July 1, 1934 road construction under the $400,000,000 authorized by the National Recovery Act was approximately at its peak. In the preceding year 6,985 miles had been completed, 13,674 miles were under construction or approved for construction, and $26,606,762 remained available for new projects. This work was carried forward vigorously by the bureau and the State highway departments, and at the same time programs and plans were prepared for work under the $200,000,000 authorized by the Hayden-Cartwright Act of June 1934. These funds were supplementary to those provided by the National Recovery Act and were available to the States under substantially the same regulations. The regulations for both acts provided that approximately 50 per cent of the funds be expended upon the Federal-aid highway system, 25 per cent on extensions of the system into and through cities, and 25 per cent on secondary roads.

Projects under the National Recovery Act were completed rapidly during the fall months of 1934 and were re-

TYPES OF COMPLETED ROAD BUILDING

	Completed in fiscal year 1934	Completed in fiscal year 1935	Total
Graded and drained	1,532	3,407	4,939
Sand-clay, treated and untreated	344	1,388	1,732
Gravel, treated and untreated	2,914	5,876	8,790
Macadam, treated and untreated	204	622	826
Low-cost bituminous mix	749	1,939	2,688
Bituminous macadam	139	611	750
Bituminous concrete	243	979	1,222
Portland cement concrete	811	2,617	3,428
Block	23	71	94
Bridges and approaches	27	104	131
Total	6,986	17,614	24,600

During the fiscal year 342 railroad-highway grade crossing eliminations were completed, bringing the total to 412, and 31 highway-highway crossings were eliminated, bringing the total to 38.

placed by new ones financed by the supplementary funds. The same trend continued during the spring of 1935 but to a less marked degree as many States approached absorption of available funds. During the year 17,614 miles were brought to completion, bringing the total of roads completed in the Public Works Program to 24,600 miles. The roads completed during the year cost $317,588,271 and the cost of those completed in the two-year period was $397,362,307.

The year closed with 8,529 miles under construction, 1,426 miles approved for construction, and $33,256,885 available for new projects. Of the total mileage completed and under construction in the Public Works Program 17,341 were on the Federal-aid system, 2,413 miles on extensions of the system into and through cities, and 13,376 were secondary or feeder roads.

ROAD WORK IN NATIONAL FORESTS AND PARKS

During the year special work-relief highway construction was continued in areas in 10 States where distress was particularly acute because of drought and a scourge of grasshoppers. This work totaling 8,727 miles, has been financed by the Public Works Administration and the Federal Emergency Relief Administration, and construction has been supervised by the Bureau of Public Roads and the State highway departments. Other work supervised by the Bureau at the request of the Public Works Administration included loan-and-grant highway projects involving more than $33,000,000 of funds allotted by that agency.

The year's work also brought to completion the improvement of 1,232 miles of main highways in the national forests, raising the total of such roads improved to date to 6,231 miles. Of the mileage improved during the year 1,150 miles were in western and 82 miles in eastern forests.

Acting for the National Park Service the bureau also supervised construction of nearly 100 miles of road in various national parks. There are now 930 miles of improved park highways. The bureau also supervised construction of a considerable mileage of roads in other Federal public lands and reservations.

The roads selected for improvement in national forests, national parks and in other Federal areas are coordinated with the Federal-aid system. They are constructed partly because of the obligation on the Federal government to provide routes across areas withheld from general use, thus preventing them from becoming barriers to communication. However, these roads are of great value in developing the resources of the areas through which they pass and they are used by tourists from all parts of the country in visiting the recreational areas maintained by the Federal Government.

The areas in the west are well known and are recognized as a national asset. Parkways now being constructed in the Shenandoah and Great Smoky Mountains of Virginia, North Carolina and Tennessee are already attracting the attention of tourists in the eastern States. When completed they will furnish a scenic attraction surpassing in sustained beauty over continuous mileage any highway heretofore built in the east. The Green Mountain Parkway being planned in Vermont is to be of a similar character.

At the close of the fiscal year on June 30 the 9,955 miles of Public Works highway under construction and approved for construction and the $33,256,885 available for new projects gave assurance of widespread employment during the remainder of the calendar year. Much employment was also to be furnished in the construction in national forests, national parks and other Federally controlled areas.

FUNDS AND PLANS FOR SPECIALIZED WORK

At the same time State and Federal highway officials were busily engaged in planning the expenditure of $200,000,000 for highways and $200,000,000 for elimination of hazards at grade crossings provided under the Emergency Relief Appropriation Act of 1935. These funds are being expended under the general plan of the Public Works Highway improvement except that even greater emphasis is laid on the selection of projects to provide the maximum of employment and the conditions of employment of labor and compensation of labor are specified in detail. Qualified workers on relief rolls must be given first preference in employment. Hours of labor are limited to 40 hours per week. Wage rates must be established that are based on living costs of the areas. In highway work a man-year of employment must be given for each $1,400 expended.

The special fund for grade crossing work makes possible the carrying out on a larger and more effective scale a policy advocated by the bureau for many years. Hundreds of crossings have been eliminated in Federal-aid and Public Works highway construction in past years, but the number that could be eliminated in any given year has been affected by the need for other highway improvements. Many crossings have remained on highways carrying a dense traffic and have taken a large annual toll in injured and killed. For the first time a major attack is being made on this problem.

Federal-aid to the States for road construction is being resumed with an authorization of $125,000,000 for the fiscal year begun July 1, 1935. In the two preceding years Public Works highway funds were provided in lieu of Federal aid.

Progress has been made on the proposed Inter-American highway from Laredo, Texas to Panama. A report on the feasibility of the project was issued in November, 1934. The route is 3,200 miles in length—half in Mexico and the remainder in the six countries between Mexico and Panama. Final location surveys are now being made of the section in Panama extending to the Costa Rican border.

The United States is assisting in the construction of bridges in Panama, Honduras and Guatemala under an authorization of $1,000,000 to enable cooperation with the several governments in the survey and construction of the highway. Offers of assistance made to other countries are under consideration by appropriate authorities of the respective countries.

TRAFFIC STUDIES AND RESEARCH

As a guide in its work of administering highway improvement the Bureau of Public Roads has conducted traffic studies and research on highway materials and methods of construction. During the year the Bureau submitted to the respective State highway departments the results of State-wide traffic surveys of New Jersey and Florida, and did field work on surveys in Connecticut and Arkansas. It also reported for the first time, detailed information concerning the various classes of motor vehicles registered and the taxes imposed on them by various agencies. The total taxes and fees collected in 1932 were found to exceed one billion dollars.

Many physical investigations were carried on. Engineers perfected apparatus for measuring the distance from the ground surface to underlying rock. An important series of tests on concrete road slabs was brought near completion. In these tests the slabs were subjected to loads and natural forces and the effects were measured precisely. These tests should result in more economical pavement design. Present tests and requirements for bituminous materials do not always result in the use of materials giving satisfactory service. By testing materials exposed to weathering the Bureau expects to find means for better control of materials.

The Bureau has continued to study subgrades and has obtained information with regard to soil characteristics. Research has revealed particularly valuable information on methods of placing dense and stable soil mixtures for road surfacing.

ANALYSIS OF STATE HIGHWAY SYSTEMS

Of the 3,000,000 miles of rural highway in the United States 345,751 miles are included in the State systems. Superimposed on the State systems are the Federal-aid system, consisting of 227,049 miles, and 128,000 miles of the more important routes of this system have been selected to form the United States System. The States are aided by the Federal Government in constructing routes on the Federal-aid system within the limits of specific authorizations of funds. The United States highways have been designated and marked for the convenience of highway users and they receive no special funds by reason of such designation. There is no system of highways that can be called a national system or a Federal system.

The most recent information on the condition of improvement of the State systems is for the end of 1933. At that time 113,850 miles had high type surfaces, 157,995 were surfaced with low types, and 73,906 miles were still unsurfaced. The roads surfaced were of the following types:

Type	Miles
Sand-clay and topsoil	11,079
Gravel and related types	129,216
Macadam	17,700
Bituminous macadam by penetration	20,063
Bituminous concrete	13,478
Portland cement concrete	77,249
Brick	2,901
Block types	159
Total	271,845

THE MOTOR BUS INDUSTRY

By Carl W. Stocks

Editor, *Bus Transportation*

VOLUME OF BUSINESS

Results from the operation of motor buses during 1935 are well ahead of 1934. This applies to both intercity services and to operations in city and suburban areas. Final reports for the year are not available as this is written, but statistics used in this article are selected from authoritative advance estimates prepared by the business paper *Bus Transportation,* and are based on results reported for the first nine months of the year by a group of carriers who during that period operated 16,000 buses 500,000,000 bus-miles.

According to these estimates the total gross operating revenues for 1935 will approximate $336,000,000 for the entire industry, about 7 per cent higher than last year. Bus-miles operated by all classes of carriers will total at least 1,620,000,000 or 7 per cent more than last year. Intercity buses are estimated to have carried 525,000,000 passengers during 1935 and city carriers approximately 1,825,000,000. This represents a gain of roughly 6 per cent in bus riding over 1934.

Lower fares on intercity lines have not, as might be expected, reduced operating revenues. The increased volume of traffic, combined with more efficient operation and improved equipment, has enabled the majority of the companies to register a small margin of net income for the first time in many years. Traffic volume on both intercity and city lines has at least been large enough to justify the heaviest purchases of new bus equipment since 1929. Intercity operators purchased better than 2,000 new buses in the first nine months of this year, and almost as many were acquired by city companies. The investment by these purchases is not far short of $40,000,000. Several million dollars more have been invested in improved passenger terminal facilities and in garages and shops for maintenance and repair of the operating equipment.

COMPANIES AND SERVICE EQUIPMENT

Preliminary estimates put the number of buses now owned by the common carrier bus industry at 41,600. Of this, 23,200 are operated by intercity carriers and 18,400 are in city and suburban service. In addition about 2,600 buses are engaged in sightseeing services and at least 65,000 buses are being regularly used in school service. These latter buses carry over 500,000,000 children to and from school during the school year.

There are about 3,900 companies engaged in intercity bus service, operating over a total of 360,000 miles of route. Local services are operated by 800 companies operating 28,000 miles of route. There are about 300 sightseeing bus companies.

TAXES

Taxes paid by the bus industry during the year are estimated at the astounding total of $56,900,000, approximately 17 per cent higher than the total reported for 1934. Intercity carriers paid $43,000,000 and city and suburban carriers $13,900,000. To put the tax picture more graphically, intercity carriers now pay an average of $1,850 per bus for their right to use the highways. City carriers pay an average of $750.

THE FEDERAL MOTOR CARRIER ACT

In the intercity bus field the most significant happening of the year was the passage of the Federal Motor Carrier Act of 1935, which brought all interstate bus carriers under jurisdiction of the Interstate Commerce Commission. Under this new law interstate carriers must obtain certificates of convenience and necessity from the Interstate Commerce Commission, which will be granted and continued in force only if the carriers conform to certain specified requirements covering operation, safety, insurance, rates of fare, competitive relations, etc. Provisions of this new law will be similar in effect to those imposed on intrastate motor carriers by the various State regulatory commissions. The need for proper regulation of interstate carriers has been urged by responsible long-haul carriers for the past 10 years. They are watching the results of the new law closely. If the final outcome is not better service for the public and better business for the carriers there will be keen disappointment. The sense of security which this new law is expected to bring to the industry should encourage orderly expansion, and accelerate the already marked trend toward modernization of rolling stock, passenger terminals, and other operating facilities on the long distance lines.

INTERCITY TRAVEL

Despite the reduced rail fares adopted in the past year or two by many rail lines, which often match and in some cases undercut bus rates, patronage of highway carriers has increased, much to the astonishment of many students of the subject, who supposed that low rates would immediately attract the bulk of the patronage back to the rails. The explanation apparently lies in the greater convenience of bus travel, the more frequent schedules over routes which take the passenger right into the heart of a community, and the undoubted influence of that intangible urge to use the highways and see the country, which has made the bus a most popular vehicle next to the private automobile. With regard to fares, it is expected that under the new Federal law rates for bus lines crossing state borders eventually will be established at levels equitable both to the public and to the carriers and from which there can be no deviation unless approved by the Commission. This should finally eliminate the fly-by-night, cut-rate operator, against whom the more responsible elements in the bus industry have campaigned for many years.

CITY SERVICE

The increasing popularity of intercity bus travel is more than matched by the tremendous growth in the use of buses in city and suburban areas. In the past 15 years local transport facilities have undergone radical changes. More than 200 electric railway companies have disappeared, to be supplanted by bus companies. Out of a total of 982 cities with 10,000 or more population, nearly 400 cities now are served entirely by the bus. This contrasts with 1920 when but 4 cities of this class were to be found in the ''all bus'' category. During 1935 buses have been substituted for street cars in 36 cities having more than 10,000 population. Among cities with more than 100,000 population which have gone ''all bus'' this year so far as local transport service is concerned are Camden, N. J., Grand Rapids, Mich., Erie, Pa., Lowell, Mass. and Wichita, Kan. Marked progress also has been made in the partial substitution of buses for street cars in the larger metropolitan centers. The outstanding example is New York City, where four important avenues have been completely motorized within the year. In Manhattan, there remains but one street car system that is not slated for substitution in the immediate future.

Save in the very largest cities, where rapid transit facilities are necessary to handle the huge rush-hour crowds, the bus has proved its fitness to handle anything in the way of local service. More important from a financial viewpoint is the fact that the bus has proved that it has an earning capacity which permits of an annual turnover equal to its investment. This was true even in the depression years just closed. Other advantages of the bus are the possibilities for rerouting to meet special conditions, or for ''off-line'' duty, while curb loading is a safety factor of first importance and one that is the creator of much new business as well.

SCHOOL BUSES

A sometimes overlooked division of bus transportation, since its activities are confined to the younger generation, is the operation of school buses. There are about 65,000 school buses in this country operating largely in rural areas and these buses daily carry 2,570,000 children to and from their classrooms. This vast industry is carried on generally through contracts with companies furnishing fleets of buses for the work and with innumerable individual operators who drive school buses during the morning and evening hours and have other occupation during the day. There is, however, a very decided trend toward state or school district owned and operated vehicles.

BUS EQUIPMENT AND DESIGN

The last few years have witnessed many fundamental changes in bus design. The two types of service—intercity and city—present vitally different problems and needs, though in each case the fundamental principles involved are a vehicle that will give the maximum of service and safety at the minimum of cost to the operator. In city operation high speeds are not so essential but quick acceleration is an absolute necessity if speedy schedules are to be maintained in conjunction with innumerable stops. Seating arrangements likewise are less luxurious, but a prime requisite is plenty of standing room to take care of peak crowds. In both types of vehicles the paramount considerations of comfort, convenience and safety are being met by buses of all-steel construction with interiors designed to avoid such discomforts as wheel-house seats, insufficient leg-room, poor ventilation, hard-riding, etc. Ventilation and heating have received much attention, and the last year has witnessed some progress in the elimination of gas fumes from the interior of the vehicles, though this is still somewhat of a problem with city buses operating with open windows on streets crowded with other vehicular traffic.

Bus engines of today are more powerful and have quicker acceleration enabling intercity vehicles to hold their own with the most modern cars on the road. No longer do buses lag uphill, and race down, but maintain a steady, even pace, which makes for safety both to passengers and to other users of the highway.

In both types of buses the manufacturers have markedly followed the trend toward streamlining, particularly on intercity jobs. For city operation the conventional, hooded bus with the engine out in front will apparently in a few years be almost a thing of the past, except for small capacity units. In its place comes the hoodless ''transit'' type buses now being turned out for city work by most manufacturers. An exception to this trend is seen in the increasing use of small type buses of conventional design, built on light truck chassis; these vehicles are low in first cost and are eminently suitable for use on lightly patronized lines, where profits would be impossible with more expensive and heavier vehicles. The chassisless, transit type vehicle, however, represents the most significant development of recent years.

In vehicles of this design the engines are more often to be found mounted transversely in the rear or horizontally under the floor, than inside the body at the front. The purpose of putting the power plant in the rear or under the floor is largely to provide more seating and standing space within the vehicle. Room for a few extra passengers often means the difference between profit and loss.

The Diesel and other types of oil burning engines are occupying the limelight of discussion and experimentation. While there is no evidence to warrant a prediction that the spark ignition, carbureted gasoline engine will be superseded by the Diesel type, there is reason to believe that the non-gasoline engines may ultimately achieve popularity for certain types of work and that competition between the two types will encourage more improvements—gasoline engines which will be even more efficient and economical to operate than present models. One disadvantage of the present Diesel is its slow accelerating qualities. For this reason it is possible that Diesels may find their greatest usefulness in intercity work where stops and starts are relatively infrequent.

THE OUTLOOK

The bus industry is confident gains made during 1935 will be maintained and even bettered in 1936. Such a prediction naturally is based on belief that present improvement in general business conditions will continue. If for any reason business in general should suffer marked set-backs the results for 1936 may be very different. There are few, however, who anticipate such reversal of present trends. In general, the belief is that with the tide turned slowly but surely in the direction of prosperity, the bus industry can look forward with confidence to a record-breaking year. One thing is very certain. The bus industry will spend a great deal of money during 1936 for new bus equipment. Even when 1935 purchases are considered, much of the rolling stock now in operation is verging on obsolescence, and must be replaced in the very near future.

COMMUNITY TRANSIT

By John A. Miller,

Editor, *Transit Journal*

GENERAL

Gross revenues of the transit industry in the United States for 1935 totaled over $1,100,000,000, the largest for any year since 1931. As compared with 1934, the figures for 1935 showed little or no gain during the first five months, but every week from the middle of June onward recorded a gain over the corresponding period of the year before. Since changes in fares were comparatively few in number and of minor importance, the increase in gross revenues reflected a corresponding increase in number of passengers carried. Preliminary figures indicated the total number of transit passengers for the year to be about 12½ billions, as compared with a low of 11½ billions in 1933 and a high of 16 billions in 1926.

Operating expenses, including both wages and materials, increased somewhat during 1935. The abandonment of the Transit Code following the decision of the U. S. Supreme Court with respect to the National Industrial Recovery Act had little effect on conditions in the industry, as the previous adoption of the Code had not involved any far reaching changes. Labor relations remained amicable for the most part, and wage advances were obtained mainly through arbitration. Despite increased costs the net earnings of most companies were substantially improved.

FINANCIAL READJUSTMENT

Need for a practical means to effect changes in financial structure was recognized in the transit industry some years ago. Many companies were burdened with extremely heavy interest charges on investments which for various reasons they had not been able to amortize adequately. When President Roosevelt approved on June 7, 1934, the amendment known as Section 77-B of the National Bankruptcy Act a practical method was established for the financial reorganization of corporations such as those engaged in the operation of transit service. Already some 16 important transit operating companies have undertaken or have indicated their intention of undertaking financial readjustment under Section 77-B. Among them are those in Philadelphia, Baltimore, St. Louis, Memphis, Grand Rapids, etc. In some instances the proceedings represent a switch from receivership proceedings, while in other instances they represent new actions initiated under the amendment.

REORGANIZATION AT BALTIMORE

From many standpoints the reorganization at Baltimore is of particular interest. Capitalization was reduced from 85 million dollars to about 46 million dollars. Common stock of no par value was substituted for 21 million dollars par value of common stock and 18 million dollars of income and funding bonds. Debentures, the interest on which is payable only if earned, were substituted for all but $931,000 of mortgage bonds. Thus the interest which is payable unconditionally was reduced to $46,500. This readjustment held intact the valuation of the physical properties as distinguished from the intangibles and the annual allowance of $1,600,000 for retirements and replacements as approved by the Public Service Commission remains unchanged. Thus it is expected that without further financing other than car trusts the company will be able to provide for sufficient renewals and improvements to maintain the property in excellent operating condition.

EQUIPMENT BUYING RESUMED

After a long period of curtailed buying the purchase of new equipment was resumed on a large scale by the transit industry in 1935. Orders were placed during the year for a total of 100 street cars, some 200 trolley buses, approximately 3,700 gasoline buses and more than 600 rapid transit cars. The aggregate cost ran to about $40,000,000 or more than double the amount spent by the industry for new equipment during the year of 1934.

While the aggregate number of new vehicles bought in 1935 was the largest for some years, it was none too much to meet the industry's needs for modernization. Obsolescence of equipment, in fact, is one of the most serious problems now facing the transit industry. Statistics show that there are in operation about 37,000 street cars that are more than 15 years old and 10,000 buses that are more than 5 years old. Thus a large part of the industry's rolling stock is outmoded from the standpoint of age alone, without regard for technological or style obsolescence. That the industry has to take cognizance of this situation and is setting out to modernize its equipment as rapidly as possible is a most encouraging sign.

COMPETITIVE SITUATION

One of the most disquieting aspects of the transit situation in 1935 was the reappearance in a substantial number of cities throughout the country of the idea of competitive bidding for franchises and the establishment of competitive services in the same territory. How far this movement will go cannot yet be foreseen. If carried far enough, however, it might mean a return to the chaos prevalent in the earlier days of the industry when competitive bidding encouraged the operating companies to assume impossible burdens which ultimately deprived the public of adequate service or deprived the company of financial stability, or both. On this subject a code of principles adopted by the American Transit Association at its 1935 Convention pointed out that a public policy which requires or encourages competitive bidding for franchises with the object of obtaining public revenue or minimum fares rather than insuring adequate, reliable and permanent service at reasonable fares is unsound for the transit rider, the community and the investor.

EQUIPMENT DESIGN

During 1935 the Capital Transit Company, Washington, D. C. placed in service 20 new street cars containing many innovations in design. Some of these innovations were the outgrowth of the research work carried on for the past several years by the Electric Railway Presidents' Conference Committee, while others were developed by the engineers of the operating company and the manufacturers. The length of time these cars have been in operation scarcely permits final conclusions concerning the success of the innovations, but indications are that the new designs are highly satisfactory. Increased speed is obtained through new types of control which permit more rapid acceleration and a combination of clasp brakes and magnetic track brakes which afford more rapid retardation. Notable reduction in noise results from the extensive use of rubber cushions in the design of the trucks.

A lot of 100 new cars was ordered early in the year for the Brooklyn & Queens Transit Corporation. Specifications for these cars include even more of the innovations developed by the Electric Railway Presidents' Conference Committee than do the Washington cars. It is expected that deliveries will be made in the early part of 1936 and an opportunity will be afforded for thorough tests of the E. R. P. C. C. designs in actual service.

One of the most interesting events of the year in the field of equipment design was the development of the so-called ''all-service'' vehicle for Public Service Coordinated Transport of New Jersey. This is a combination gasoline motor bus and electric trolley bus, which can be operated either way by adjustment of the control. Advantages claimed for this design are that it can utilize the economical and abundant supply of central station power available through the trolley wires and yet can secure complete maneuverability by pulling down the trolley poles and operating as a gasoline motor bus. A total of 62 ''all-service'' vehicles have been placed in operation by the company, most of them being on long suburban lines where rail car operation had become unprofitable.

BUS DEVELOPMENT

Expansion of bus operations by the transit industry continued steadily throughout the year. A considerable amount of electric railway track was abandoned in localities where it appeared more advantageous to utilize motor buses. Particularly interesting in this connection was the substitution of buses in place of cars on the Madison Avenue, Eighth Avenue and Ninth Avenue lines of the New York Railways. These substitutions represented the first steps in a program to motorize all of this company's lines covering a considerable part of the Borough of Manhattan.

Continuing the trend of other recent years a substantial number of small and medium size cities abandoned all local electric railway service in favor of buses. Among the cities making the change during the year were Grand Rapids, Mich., Erie, Pa., and Wichita, Kan. Out of a total of 376 cities of over 25,000 in the United States, 123 are now served entirely by motor buses or trolley buses, except for certain interurban rail lines which are not actually part of the local transit service. How this development has progressed year by year in cities of various sizes is shown in an accompanying tabulation.

The growing importance of bus operation in the transit industry is indicated by the fact that about 15 per cent of all transit passengers are now carried by buses. Electric surface railways carry about 64 per cent, rapid transit subways and elevated railways about 20 per cent, with the remaining 1 per cent divided among the trolley bus lines, the electrified suburban railroad services and a few remaining cable lines. An accompanying tabulation shows the passengers carried by the various types of service by years since 1920.

TRANSIT INDUSTRY IN THE UNITED STATES

TRANSIT VEHICLES

	Jan. 1 1921	Jan. 1 1922	Jan. 1 1923	Jan. 1 1924	Jan. 1 1925	Jan. 1 1926	Jan. 1 1927	Jan. 1 1928	Jan. 1 1929	Jan. 1 1930	Jan. 1 1931	Jan. 1 1932	Jan. 1 1933	Jan. 1 1934	Jan. 1 1935	Jan. 1 1936
Electric Railway Cars...	83,749	84,063	83,066	82,672	82,446	81,635	80,744	79,385	77,623	74,036	72,248	66,990	64,585	61,413	58,225	54,204
Buses and Trolley Buses......	200	250	600	1,200	2,400	5,400	7,749	9,229	9,300	11,400	13,522	17,018	16,966	16,700	17,860	19,737
Total Transit Vehicles....	83,949	84,313	83,666	83,872	84,846	87,035	88,493	88,614	86,923	85,436	85,770	84,008	81,551	78,113	76,085	73,941

MILES OF TRACK AND BUS ROUTE

	Jan. 1 1921	Jan. 1 1922	Jan. 1 1923	Jan. 1 1924	Jan. 1 1925	Jan. 1 1926	Jan. 1 1927	Jan. 1 1928	Jan. 1 1929	Jan. 1 1930	Jan. 1 1931	Jan. 1 1932	Jan. 1 1933	Jan. 1 1934	Jan. 1 1935	Jan. 1 1936
Miles of Electric Railway Track .	46,500	46,500	44,699	46,273	46,017	45,924	44,957	43,811	42,768	42,044	41,030	37,683	35,680	33,973	32,028	30,612
Miles of Bus and Trolley Bus Route..	1,000	1,500	2,000	2,500	5,000	12,750	16,500	18,750	23,000	24,100	26,099	25,323	26,855	24,315	25,399	27,109
Total Track and Bus Route......	47,500	48,000	46,699	48,773	51,017	58,674	61,457	62,561	65,768	66,144	67,129	63,006	62,535	58,288	57,427	57,721

PASSENGERS CARRIED

(Millions)

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
Electric Railway Passengers.....	15,540	14,574	15,331	15,650	15,312	15,167	15,225	14,901	14,557	14,435	13,196	12,050	10,226	9,760	9,961	10,426
Bus and Trolley Bus Passengers.....	255	420	625	850	1,120	1,360	16,45	1,740	1,790	1,810	1,780	1,784	1,657	1,584	1,754	1,887
Total Transit Passengers..	15,795	14,994	15,956	16,500	16,432	16,527	16,870	16,641	16,347	16,245	14,976	13,834	11,883	11,344	11,715	12,313

RAPID TRANSIT DEVELOPMENTS

Substantial additions were made by the Independent Subway in New York City in conformity with its plan to construct an extensive system serving four of the city's five boroughs. Orders were placed during the year by this system for 500 new cars of the same general type as those now in operation. At the same time the Brooklyn-Manhattan Transit Corporation ordered for its elevated lines, 25 five-section articulated units of a new light-weight design based on experience with two experimental units of this type placed in service in 1934.

After many years of discussion and negotiation the plans for unification of the rapid transit facilities in New York City were advanced somewhat nearer consummation. Tentative agreements were reached between the city of New York on the one hand, and the Interborough Rapid Transit Company and the Brooklyn-Manhattan Transit Corporation on the other hand, looking to the acquisition of the companies' properties by the city through exchange of securities. Under this plan it is expected that the city will create a Board of Transit Control to handle the operation of the Interborough Rapid Transit Company, the Brooklyn-Manhattan Transit Corporation and its own Independent System. Unification of the surface and elevated lines in Chicago was also the subject of active discussion during the year.

FUTURE PROSPECTS

Prospects for the future in the transit industry may safely be said to be more encouraging today than they have been for some years past. The upward trend of patronage for two successive years is a gratifying indication of public need for the services rendered. Proceedings are under way to effect certain necessary readjustments in financial structures, which will facilitate modernization of the properties. Moreover, equipment designs are now available which place the industry in a position to render more attractive service, both by rail and by bus, than has been possible at any time in the past.

NUMBER OF CITIES WHERE BUSES AND/OR TROLLEY BUSES PROVIDE ALL LOCAL TRANSIT SERVICE

Total Number of Cities	Size of City	Jan. 1 1920	Jan. 1 1921	Jan. 1 1922	Jan. 1 1923	Jan. 1 1924	Jan. 1 1925	Jan. 1 1926	Jan. 1 1927	Jan. 1 1928	Jan. 1 1929	Jan. 1 1930	Jan. 1 1931	Jan. 1 1932	Jan. 1 1933	Jan. 1 1934	Jan. 1 1935	Jan. 1 1936
5	Over 1,000,000 . .	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	500,000-1,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	250,000-500,000 .	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	100,000-250,000 .	0	0	0	0	0	0	0	1	1	1	1	1	2	2	3	4	9
98	50,000-100,000 . .	0	0	0	0	0	0	0	1	1	1	1	3	5	9	12	16	22
185	25,000-50,000. . . .	0	2	2	2	4	5	7	9	12	21	27	35	54	67	79	83	94
376	Totals Over 25,000.	0	2	2	2	4	5	7	11	14	23	29	39	61	78	94	103	125

MERCHANT MARINE

By Peter Bain

Consulting Naval Architect

DEPENDENCE OF COMPETITIVE STATUS ON GOVERNMENT AID

On the basis of new construction in progress when the year began, it may be said that world merchant shipping gave promise of a fair degree of returning prosperity, new tonnage showing a 65 per cent increase over that of the year before. Considered, however, in the light of the more or less obsolescent status of the American merchant marine generally, or relative only to its foreign trade competitive fitness, one is somewhat shocked to find that our new construction represented but 2 per cent of the world whole. A few months later, a further 1/2 per cent drop was recorded. As late as mid-October the only officially reported merchant shipping on the ways of American shipyards was represented by two tankers. Towards the year end, however, a welcome reversal of the prevailing trend expressed itself through the placing of new construction orders, all of the vessel units involved being destined for or capable of engaging in foreign trade with the exception of three ferryboats whose scope of service will be within New York Harbor. Although, among the orders placed tankers were predominant in number and aggregate tonnage, it is of interest to note that a sister ship to the *Manhattan* and *Washington* of the United States Lines constituted a distinct step in the direction of obsolete vessel replacements by those of more up-to-date equipment and appointments, and important from the operator point of view because, not infrequently, the vehicle from loss to profit. No additions to our merchant marine were under construction in Great Lakes shipyards at the year-end. Lack of a definite government policy toward its merchant marine continues to handicap American shipping competitively with other maritime countries; thus, the future of our merchant fleet appears to depend almost entirely upon the adoption by Congress of a permanent and orderly program that will provide concurrently both rehabilitation and upbuilding. Bills pending in the House and Senate would substitute for present government aid in the form of mail contracts direct subsidies to cover the higher cost of construction here and, either through modified mail contracts or operating subsidies, take care of the higher cost of ship operation; in each case, provide the necessary differential between costs to us and to our competitors. While the United States is dallying with adoption of a permanent policy for its shipping, leading maritime countries elsewhere throughout the world are both continuing and adding generous and broad scope aid in that direction. That the United States must follow the example and action of its competitors goes without saying; otherwise, it will gradually revert to the status in foreign trade held in pre-war days when less than 10 per cent of our merchandise was carried in our own ships. Although, at no time did the volume under construction of additions to our merchant marine exceed 2 per cent of the total merchant ship tonnage being built throughout the world, it can be claimed that 1935 ended with the outlook much more auspicious than when it began. During the elapsed period, contracts placed for merchant ships totalled 12, aggregating 78,070 tons; three of an aggregate of 26,712 tons were launched, and two of an aggregate of 19,022 tons were delivered. Other favorable trends noted throughout the 12 months were those of increased passenger bookings by transatlantic vessel services and a substantial reduction in idle tonnage. At the end of the third quarter, American idle tonnage had been brought to 2,300,000 tons, the lowest in many years, while that of the world at large reached a correspondingly low total of 5,000,000 tons.

THE COMMERCIAL FLEET

At the close of the year, 1,150 vessels comprised what the American Steamship Owners Association designates as the nation's commercial fleet. Of the grand total, 650 were freighters, 327 were oil tankers, and 173 were combination freight and passenger craft. Of the latter, 44 have been built as the outcome of Federal legislation enacted in 1920 and 1928 and, with few exceptions, these are the only modern craft of their type in our merchant marine. Of the freighters, seven have been built since 1925 and, in regard to the tankers, but 30 have been added in 30 years. On the basis of aggregate degree of fitness of our commercial fleet, not more than 7 per cent can be reckoned as competitively modern. Notwithstanding, American shipyards are operating at one-half their capacity, according to a survey by the National Council of American Shipbuilders. The survey was undertaken in order to refute statements to the effect that, because of the great volume of naval construction on their ways, our shipyards were unable to tackle merchant vessel construction however urgent the need and numerically impressive the quantitative and qualitative offerings. Exclusive of shipyards on the Great Lakes and including only those coastal plants equipped with facilities for building sea-going vessels, the survey indicated a capacity of 93 shipways. While some allowance is in order by taking into account the reconditioning of some 40 vessels in recent years, the indicated unfortunate situation prevailing is in no way mitigated. Incidental to the improved status of the idle ship phase of our merchant fleet, it should be stated that an appreciable increase of activity in our larger repair plants was recorded during 1935, primarily because of return to service of a goodly number of vessels formerly laid up.

REDUCTION IN WORLD FLEET TONNAGE

The merchant fleets of most of the world's maritime countries suffered reduction during 1935, according to Lloyd's *Register of Shipping,* 690,640 tons being indicated as the aggregate involved. Thus, the world as a whole owns 64,885,972 tons as against 65,576,612 reported for 1934. Nations showing notable gains included Greece, Soviet Russia, and China, the respective increases being estimated at 203,905, 171,522, and 56,546 tons. Among the large decreases were those of Great Britain and Ireland, 334,503 tons; France, 272,917; United States, 192,787, and Panama, 134,521. The merchant fleet of Great Britain and Ireland totals 17,298,000 tons. Ranking next is the United States with 12,145,000; Japan with 4,086,000; Norway with 3,967,000; Germany with 3,693,000; France with 2,989,000; Italy with 2,838,000; Holland with 2,554,000; Sweden with 1,541,000; Spain with 1,164,000; Denmark with 1,099,000, and Greece with 1,711,000 tons. Of the 64,885,972 tons of world tonnage, 63,727,317 tons relates to steamships and motorships while the balance of 1,158,655 tons belongs to sail or non-propeller vessels. Great Britain and Ireland own but 101,977 tons of the latter. On the other hand, in the field of steam and motor ships, Great Britain and Ireland own 17,298,432 tons. It is worthy of note that the American merchant marine, while ranking second in volume of tonnage, ranks fifth in speed and eighth in age. The British fleet is credited with ranking first in all categories. Since 1925, Great Britain has built 617 seagoing freighters, each of 2,000 gross tons or more, while in the same period the United States launched only seven such vessels of which but two have been employed in general trade, the others being more or less special craft such as colliers and freight car ferries. Although Lloyd's *Register of Shipping* credits us with the ownership of 12,145,000 tons and classifies it as being all equipped and fit for sea service except 2,480,000 tons engaged in Great Lakes trade, it should be borne in mind that nearly 1,700,000 tons represent craft rated between 100 and 2,000 tons; 3,000,000 tons belong to coastwise trade, and well over 1,000,000 tons may be based on the idle fleet of the United States Shipping Board.

SHIPPING REVENUES

A survey of United States merchant shipping by the American Steamship Owners Association finds it more completely organized and strongly entrenched in the trade routes of the world than at the beginning of the depression. Although heavy losses have had to be borne in the last five years, the flag has been kept flying on all trade routes. Due to the prevalence of unremunerative rates, revnues still continue sub-normal, yet the volume of business—passenger, freight, and mail—has shown consistent gains. Transportation of merchandise, the backbone of ship line incomes, may be said to have increased in practically all trades served by American ships, foreign commerce in 1935 reaching its best total since 1931. Naturally there was better business for our ships engaged in that particular direction. Coastal and intercoastal business, too, has been on the mend, clearances in the latter showing a marked gain for October, the last full month for which figures were available. On the Great Lakes as navigation came to a close there appeared to be a concensus of opinion that 1935 had done very well for its diversified community of water transportation interests besides giving omen of a still better 1936.

FACTORS HAMPERING LEGISLATIVE AID TO SHIPPING

While there is general agreement that our merchant marine is not functioning satisfactorily and that unless immediate and salutary restoration is undertaken, decay as a maritime nation is again in the offing. No lack of activity—legislative, research, conference, tongue and pen—is being displayed, especially by and on behalf of the direct and indirect interests and, no less so, a growing patriotic sentiment; yet, pending a reconciliation of generally divergent views held by owners and operators themselves, it seems more or less idle to speculate on the nature of any government aid that finally will be granted. Congress in its 1935 session failed in its effort to legislate our merchant marine back on the road to rehabilitation and recovery to a state of competitive international fitness, following which the annual merchant marine conference sponsored by the propeller clubs of the United States, took a hand, if so be the legislative path be more smoothly laid and desired and necessary enactment to preserve, maintain and expand our merchant shipping industry be among the early achievements of the impending Congress.

At this two-day conference which met in New York City, Nov. 18-19, there was no gainsaying the fact that not only was our merchant marine problem a matter of extreme urgency but that operator and ownership irreconcilability to administrative subsidy proposals for Congressional action loomed large. It may at once be said that no scathing indictment of the status or condition of our merchant marine compares with that made by Alfred H. Haag, chief of the shipping research department of the Shipping Board in a report prepared by him for the conference. It was pointed out that 6,638,000 gross tons or nearly 89 per cent of our merchant fleet was more than 13 years old and that 5,287,000 gross tons were more than 15 years old. An annual replacement program calling for nearly 950,000 gross tons annually during the next seven years will be necessary to restore us to required international status. Annual replacements suggested would provide 375,000 tons for foreign trade services, 271,000 tons for domestic trade services, and 302,000 tons of tankers. Construction of this tonnage by 1942 would replace the tonnage which, by that time, would have reached 20 years of age and thus have merited withdrawal from active service. Such action, it was declared, should be taken if the spirit of the anticipated American shipping subsidy program is to be properly expressed. The primary purpose of government aid to our shipping is, of course, to place our vessel services on an economic parity with our foreign competitors whose capital and operating costs are on a lower level; thus, the rendering of such aid will fail of the purpose for which it is intended unless our ships are on a parity in both speed and economy of operation.

Analysis of the merchant fleets of various nations appears to emphasize the age of American merchant marine tonnage. Dealing only with vessels of 2,000 tons and over operated in freight and passenger trades and internationally competitive, a total of 35,900,000 gross tons was disclosed, of which eight nations owned 29,633,000 gross tons. Great Britain led with 13,205,000 tons followed in order by the United States with 3,065,000, Japan 2,969,000, Germany,, 2,740,000, France 2,250,000, Italy 2,132,000, the Netherlands 1,757,000, and Norway 1,515,000. Vessels of this group aged 10 years or less total 8,423,000 tons; Great Britain leading with 4,321,000 and the United States eighth with only 297,000 tons. Tonnage in this category is distributed among other nations as follows:—Germany 920,000; Japan 637,000; the Netherlands 602,000; Italy 560,000; Norway 559,000; and France 527,000. Mr. Haag found that vessels with a speed of 12 knots and upwards totalled nearly 18,000,000 tons, of which Great Britain had 8,320,000; Germany 1,941,000; the United States 1,555,000; Japan 1,551,000; France 1,492,000; the Netherlands 1,340,000; Italy 1,119,000, and Norway 597,000. Summarized, the figures show that in volume of tonnage Great Britain outranks the United States more than 4 to 1; in speed of 12 knots or more by 5 to 1, and in ships of less than ten years old by 14 to 1. It goes without saying that the weakness in both carrying power and efficiency of that part of the American merchant marine which operates in foreign trade is so clearly demonstrated by the figures quoted in the foregoing as to remove beyond the shadow of any doubt all trace of competitive fitness that hitherto may have been cherished. A further analysis showed that in our foreign trade fleet, vessels of 10 knots speed predominate and that over 85 per cent of the entire tonnage is 13 years old or more. Similar weakness is apparent, too, in our domestic trade and tanker fleets. Concerning the latter, 92 per cent of the 2,385,000 tons embraced relates to vessels of less than 12 knots; in addition, over 88 per cent of the entire tanker tonnage is 13 years old or more.

SHIPPING COMPROMISE OR GOVERNMENT CONTROL

Addressing an audience of about 1,000 shipping men at a dinner which featured a not unimportant side line of the American Merchant Marine Conference, Secretary of Commerce Roper warned our shipping interests that they must be prepared to accept a compromise with the Government in the matter of Federal aid to our merchant marine or witness the transfer of control from private to governmental hands. He emphasized in no uncertain manner that President Roosevelt favored government subsidy of shipping by direct rather than indirect measures such as the mail contract system now operative. Mr. Roosevelt would have Federal aid to offset the advantages of foreign competitors treated separately as far as construction and operating differentials are concerned and would combine with these an additional aid to offset the liberal subsidies paid by many foreign governments to their shipping agencies. The Copeland-Bland Bill of the 1935 session of Congress—considered an administration measure—was cited as evidence of governmental effort. Obviously, it will be impossible to enact legislation that will be wholly satisfactory to the various elements which constitute the American shipping industry. Our task then, according to Secretary Roper, would be to secure at the 1936 session of Congress legislation sound in general principle and, in the light of the first year or two of experience under a new law, iron out such disabilities as become disclosed through amendment, to the end that maximum benefits and a minimum of hardships be the visible and lasting tangible effects achieved.

The Copeland-Bland Bill, in the form in which it emerged from the Senate, was attacked at a conference session from the viewpoint that the American merchant marine must be built up on liner rather than tramp vessel standards and that our ship lines thus must accept conference agreements with foreign competitors because constituting the most desirable instrument for insuring success of line services operated on regular schedules. Payment of rebates to shippers in return for the promise of exclusive handling of their cargoes is an essential feature of the conference plan. The Copeland-Bland Bill as finally drafted, but unenacted, withheld from American ship lines the right of rebates. Nero is credited with fiddling while Rome burned: no more ridiculous does that situation now appear than is disclosed through the quibbling of individual and sectional groups while a merchant marine on which our national welfare depends and national dignity demands, continues to sink into its pre-war oblivion. As further indication of the irreconcilability of many of the interests involved and not altogether inexpressive of and unconnected with citizen reaction to the confused situation, a message from Senator Copeland (N. Y.) was read to the conference, warning that the Jones-White Act which provided for the existing mail subsidies was ''in the wastepaper basket'' and that this aid would end March 31, 1936, unless a new Bill were drafted within 60 days. The Senator chided shipowners for their failure to cooperate in providing substitute legislation. A second rebuke came in the form of a letter from Senator Black of Alabama, declining to attend the conference. It may be recollected that he led the Senate's investigation of shipping scandals in 1934. In declining the invitation to attend the conference, Senator Black said: ''I must state that it is my belief that the conference to be held is not likely to result in aiding the passage of legislation in the interest of all the people of this country.''

CRITICISM OF SHIP SUBSIDY PROGRAM

In December, when the Black Diamond Steamship Corporation tendered its resignation as a member of the American Steamship Owners Association on the ground that the latter had failed to achieve anything in the form of a ship subsidy program and had been lax in its efforts in support of lines operating in unprotected trades, a glimpse at least was had of one direction in which unanimity of conception of subsidy legislation was apparently far from the stage of realization in vessel ownership circles. A statement accompanying the letter of resignation charged that of the $28,000,000 annually paid to American ship lines as subsidy, one half goes to lines which are in protected or partly protected trades and which do not require government aid in meeting the competition of foreign operators. The situation was described as ''ridiculous'' and contrary to the purpose a government subsidy should be designed to serve. The protected lines lack the interest in a subsidy program which the others possess and by their control of the owners association are declared to have retarded the shipping industry as a whole in bringing its needs to the attention of the government in the form of a definite subsidy program. ''Our patience and that of other lines in the unprotected trades is exhausted,'' said the statement accompanying the letter of resignation. ''We are tired of the jumbling of interests and lack of unity in the association, which today is filled with a lot of old mossbacks who know only one method and will not try any other.'' Divergence of interest within the association had, it is claimed, encouraged others to oppose a worth-while subsidy program. Certain coastwise and intercoastal lines which receive no subsidy and which object to the payment of a subsidy to competitor lines join with railroads in fighting all ship aid. Legislative and administrative officers of the Government also are included as opposed to any subsidy legislation that is not specific in fixing the basis and degree of subsidy for the various groups of lines.

SHIPPING GROUP LINE-UP BY TRADES

American ship lines, it is claimed, may be divided into three groups whose interests so far as the need of aid is concerned are divergent. The first group, operating in unprotected trades in competition with foreign lines whose advantages include lower capital and labor costs, comprises the Black Diamond, American Republics, America-France, United States, American Export, American South African, Munson, and Lykes lines. The second or semi-protected group includes lines operating in near-by foreign trades, most of them carrying a large share of the American commerce in their particular trades and others as industrial carriers assured of freight from the corporations that own them. The Grace, Panama Pacific, United Fruit, and Eastern Steamship lines, may be taken as constituting this group. The third or protected group includes lines operating in the coastwise or intercoastal trade in which no foreign ship line is permitted by law to participate. Embraced are the Panama Pacific, American Hawaiian, Luckenbach, Quaker, Shepard, and other lines. Absence of foreign competition here is declared to be protection enough for operators without subsidy aid.

NEW SHIP SUBSIDY BILL

A Ship Subsidy Bill embodying the recommendations of President Roosevelt in his message of March 4, 1935, was scheduled to be introduced by Senator Copeland in the second session of the 74th Congress. The bill will provide for the termination of existing ocean mail contracts, abolish the construction loan fund, provide for direct subsidies, and set up a United States maritime authority to administer the law. While the bill does not fully represent the Senator's personal views on the subject, it nevertheless appeals to him as the best solution of the problem that sponsors of the bill have been able to work out. The bill provides that all mail of the United States shall, as far as practicable, be carried in vessels of American registry; also, that settlement or cancellation of existing ocean mail contracts shall be on such terms as are deemed to be ''fair and advisable.'' If the settlement proposed is unsatisfactory to the holder of the contract, the matter can be brought into the Federal courts for final determination. Because one of the most controversial subjects in the past has been the matter of loans for construction and reconditioning of new and old ships respectively, perhaps the most interesting departure in the bill is that relating to the amending of the Reconstruction Finance Corporation Act to permit of loans to American shipowners as is now a feature of railroad financing. The maritime authority to be set up would consist of three members serving six-year terms at $12,000 a year. With the exception of its counsel, no employe of the Authority would receive a salary in excess of $7,500 yearly. The counsel would receive not more than $9,000 a year. It is believed that the pending bill meets the suggestions of President Roosevelt and that its enactment will achieve what we are eager to realize. Some of the proposals of the 1935 bill, particularly those relating for the most part to labor, will be submitted in a separate measure sponsored by Senator Copeland.

REDRAFTING OF SHIP SAFETY RULES

Numerous changes in regulations designed to promote safety of passengers at sea, proposed by the Bureau of Navigation and Steamboat Inspection Service, were approved June 25 by Secretary of Commerce Roper. The changes provide careful examination and subsequent approval of all structural plans of new vessels or reconstructed vessels covering the element of safety from the standpoints of buoyancy, stability, subdivision, access, fire-screen bulk-heads, and non-inflammable structure. Installation in all public rooms, in addition to sleeping quarters, passageways, lockers, linen rooms, paint, oil and lamp rooms, carpenter's shops, galleys, and officer and crew quarters, of either an automatic electrical system, a pneumatic tube system, or an automatic sprinkler system. Concealed overhead spaces are to be protected by fire-detecting or automatic sprinkler system. All sleeping accommodations on vessels over 100 gross tons are to be equipped with a sufficient number of alarm bells so located as to warn all occupants. Better location, visibility, identification and availability of all fire-fighting equipment, fire doors, fire screens, and watertight doors are provided for. There will be installation of audible alarms for smoke detection in the wheelhouse or fire station where 24 hour watches are maintained; also an auxiliary audible alarm in the engine room; life lines to be placed at all air ports that are 12 inches or more in diameter, the life lines to be of sufficient length to reach the water when ship is at its lightest seagoing draft. There will be loud speaker systems with a sufficient number of stations to enable the officer in command to broadcast from the bridge to all passenger and crew quarters, and so designed and installed that they cannot be rendered inoperative at any station. An efficient means of communication between the pilot house and the emergency steering station, and the steering engine room, is required. The emergency steering wheel is to be located on the after weather deck. Flame-tight fire doors are operated by lever handles arranged to be served from either side of bulkheads. Lifeboat chocks on passenger vessels are to be so fitted that the life boats they serve shall not require lifting before launching. Specifications for a rigid examination and issuance of certificates for all lifeboat men and able seamen must be had. More rigid rules concerning the instruction and assignment of the various members of the crew to their respective duties for emergency services, inculding the closing of airports, watertight doors, fire doors and fire screens, stopping of fans and ventilators, as well as the manning and launching of lifeboats are required. Provision is made for the lowering of passenger vessel lifeboats by mechanical means as well as by hand gears. There are to be special surveys of ships when deemed advisable yet in no way affecting or replacing the regularity and thoroughness of the annual inspection required of each ship. Emergency or rescue craft is provided for employment principally where one ship is lending aid to another and applicable to all seagoing passenger vessels. Other provisions are increase in amount of food and equipment to be carried in lifeboats and rafts, and stronger and better lifeboats for all ships.

Meeting with expert advisers to consider lines of procedure in its investigation of the *Morro Castle* and *Mohawk* disasters, the Senate Committee was informed that at date, June 17, 1935, ''160 fire traps are still afloat and carrying passengers.'' The figures on fire traps were presented to the Committee by the Steamboat Inspection Service. Alluding to these undesirable components of our merchant marine, Senator Copeland chairman of the Committee, said ''they are in a condition comparable to that of the excursion steamer *General Slocum* which caught fire and burned with a great loss of life in New York years ago.''

GOVERNMENT DRIVE FOR SAFE SHIPS

Toward the year-end it became known that unsafe ocean-going passenger vessels under the American flag were being unostentatiously taken in hand for remodelling. While officials of the Department of Commerce—the government bureau responsible—declined to indicate just how many ships had so far been found unsafe, it was made clear that not one shipowner had refused to comply with the ''suggestions'' offered by the Bureau of Navigation and Steamboat Inspection. It is expected that by March, 1936, the study of ocean-going craft will have been completed. Later, the investigation will be extended to bay, sound, river, and lakes vessels, the ultimate aim being that every ship permitted to carry passengers will be so constructed or remodelled that sinking will be impossible under reasonable conditions and circumstances.

Notwithstanding the immediately foregoing and somewhat disturbing picture illustrative of a phase of our merchant marine which is not incomparable to that of our city slums, and not a little refreshing because of its wholly counter aspect, Lloyd's *Register*, through a survey of safety in world shipping reflected by tonnage lost at sea, designates the degree of safety on American ships as more than twice as great when averaged as that of its commercial associates afloat and otherwise owned. In the five-year period ended 1934, only .26 per cent of the American merchant fleet was lost at sea, whereas .53 per cent of world tonnage was lost. Figures on Great Britain's merchant fleet show that .35 per cent of tonnage was lost. The degree of improvement in American shipping is further emphasized by the fact that 1.26 per cent of American tonnage was lost in the period 1905-09 and that exactly the same percentage of world shipping lost was then recorded. The British total was reported as 1.07 per cent. The National Council of American Shipbuilders in a statement relative to Lloyd's survey said that "it is believed that the International Safety of Life at Sea conventions of 1914 and 1929 have been instrumental in bringing about the decline in world shipping losses." The United States is not a signatory to the conventions owing to senatorial unwillingness to enact the necessary legislation; however, standards have been maintained aboard American vessels consonant with and for the most part equal to the provisions called for by the two conventions.

UNITED STATES SHIPPING BOARD BUREAU

The declared policy of liquidating government-owned shipping properties was continued throughout the year. A thorough survey was made of the 229 vessels held in reserve lay-up, the result of which led to a triple classification as follows: a first reserve of 30 for restricted operation, charter, or sale; second reserve of 132 for national emergencies, and the balance or third category made up of 67 vessels of insufficient value for commercial or military operation to warrant further preservation. Five government-owned lines continued to operate in foreign commerce, serving North Atlantic and United Kingdom and European continental ports. It is proposed to consolidate all five under one managing operator, and this is expected to be consummated early in 1936. Improved administrative supervision of the finances of debter shipowners was achieved and the system of joint accounts whereby governmental control is exercised over disbursements from ocean-mail subsidies continued to show improved results. From the companies with which joint accounts are maintained, approximately $4,500,000 was collected on construction loans and ship sales notes, including principal and interest, while total collections from debtor shipowners exceeded $28,400,000. It is obvious that the improved status of these accounts will simplify the work of the Government if and when it becomes necessary to adjust or modify existing ocean-mail contracts. Further progress was registered in the continuing study of marine insurance, the second largest item of expense connected with ship operation. While surveys so far made show that a large percentage of insurance is still placed abroad, it is increasingly evident that the policy of fostering the American market is producing beneficial results.

MISCELLANEOUS

Early in December work was begun to convert the abandoned army post at Fort Schuyler, New York, into a permanent home and training base for the New York State Merchant Marine Academy. The project, backed by a grant of $1,752,000 from WPA funds, is expected to result in the establishment of one of the nation's greatest state-owned and operated schools of the sea. When the new school is ready for occupancy, the present enrollment of 160 cadets will be increased to 250. With completion of the pier in the late spring of 1936, the training ship *Empire State* will be moved there.

Noteworthy, because of intimate relation to and connection with merchant marine activities, was a broad construction program launched on behalf of the United States Coastguard Service. The keels of four 2,000-displacement-ton cutters were laid and, through the allocation of an $18,446,000 appropriation, a program to modernize the fleet by January, 1937 became a matter of record. Cutters, motorboats, patrol boats, boarding and anchorage boats, lifeboats, surf boats, picket boats, harbor boats, airplane crash boats, in varying number and capacity constitute the detail units projected.

COMMERCIAL AVIATION

By Andrew F. Haiduck

Bellanca Aircraft Corporation

PACIFIC AIRMAIL TRANSPORT

Scheduled transoceanic air transport, that dream of both air line operators and aeronautical engineers was realized in 1935, when the *China Clipper* completed the first round trip crossing of the Pacific Ocean in the remarkable flying time of 122 hours, 42 minutes for the 16,000 miles. Thus airmail from the Philippines reached the Atlantic seaboard in less than one week. This milestone of progress was only made possible by the combined efforts of Pan-American and the aircraft manufacturers who produced the flying boat capable of flying such a distance with a safe fuel reserve and adequate payload.

At the end of the year three of these "clipper" boats were in regular scheduled service. These planes are the largest flying boats of their type in the world. Early in 1936 both passengers and mail will be carried. These giant boats have sleeping accommodations for 18 passengers and carry a crew of seven. This same type of airplane will probably be used in transatlantic service as soon as the international complications regarding the exchange of landing privileges are ironed out. Towards the end of the year the United States, Canada, England and Ireland had practically reached a reciprocal operating agreement.

PASSENGERS

All records were broken in 1935 for the number of passengers utilizing the time saving advantages of our air transportation network. The principal reasons for the steadily increasing number of passengers are frequency of schedule, increased speeds, reduction of fares and improvement of airplane design both from the aerodynamical viewpoint as well as that of passenger comfort.

Scheduled air lines flew 28,729,128 miles and carried 377,339 passengers on air journeys totaling 162,858,746 passenger-miles in the first half of 1935. Totals in the foregoing are for all routes, domestic and foreign extensions. The domestic routes flew 24,642,134 miles, carried 319,484 passengers and flew 139,436,311 passenger-miles (a passenger-mile is one passenger flown one mile); on the foreign extensions the totals were miles flown 4,086,994, passengers 57,855 and passenger-miles 23,422,435.

FARES

The average fare rate at the end of the period, for domestic lines only, was 5.89 cents per mile. The average length of a passenger's trip on the domestic lines in the period was 436 miles. These lines started 39,441 trips of which 36,823 or 93.36 per cent were completed. The number of trips scheduled was 42,005 of which 39,441 were started, for a percentage 93.89. Of the 42,005 trips scheduled, 36,823 or 87.66 per cent were started and completed. Of the seating space available in airline craft during scheduled trips, 56 per cent was occupied during the period. In the first half of 1934 the percentage of trips occupied was 48.

AIR TRANSPORT SERVICE

Cities and Districts.—Of the 122,775,046 persons in the United States (1930 census), 53,751,593, or 43 per cent, live in areas which are directly served by scheduled air lines, according to a survey. Three-fourths of the nation's metropolitan districts are served directly. The 26,377 miles of domestic air routes are so distributed that they touch 71 of the 96 major population centers. A metropolitan district is an area having an aggregate population of 100,000 or more and containing one or more central cities of 50,000 or more inhabitants. For example, the metropolitan district including Washington, D. C. consists of the District of Columbia, together with the several communities adjoining in Maryland and Virginia. Thus the total number of cities served is a much larger figure—1,506. Of these 1,380 are included in the metropolitan district and 126 are cities which are not parts of metropolitan districts. The scheduled air lines use 206 of the 1,203 municipal and commercial airports in the United States. In many cases a single airport serves a number of cities.

Express.—Air express is now handled upon a basis similar to that of railroad express. Air transport operators carried 2,221,013 pounds of express in the first half of 1935. The domestic routes carried 1,412,969 pounds whereas the foreign extensions accounted for 808,044 pounds. The total of both domestic and foreign extensions for 1934 was 1,573,014 for the same period.

Personnel.—At the end of the 6-month period, the 22 companies operating on domestic routes and the four offering service to foreign nations were operating 464 airplanes. They had in their employ 571 pilots, 330 co-pilots, 2,637 mechanics and ground-crew workers, 1,519 other hangar and field employees, 2,871 operations and office employees, and 159 stewards and hostesses.

SUMMARY OF AIR-TRANSPORT OPERATIONS

Miles of American-operated air-transport routes:	
Domestic	29,687
Foreign	22,335
	52,022
Miles in operation with United States mail:	
Domestic	27,204
Foreign	18,872
	46,076
Miles in operation with passengers:	
Domestic	29,687
Foreign	22,261
	51,948
Miles in operation with express:	
Domestic	29,687
Foreign	22,261
	51,948
Airplane miles scheduled daily (average):	
Domestic	178,907
Foreign	13,707
	192,614
With United States Mail:	
Domestic	124,036
Foreign	10,881
	134,917
With passengers:	
Domestic	174,495
Foreign	13,641
	188,136
With express:	
Domestic	178,907
Foreign	13,641
	192,548

TRANSOCEANIC AIR TRANSPORT

With the Pacific already spanned by scheduled air transport the last frontier remaining is the North Atlantic. At the close of the year four-way negotiations among the United States, Canada, England and Ireland were rapidly being consummated regarding reciprocal agreements pertaining to landing and operating problems. Both Glenn L. Martin and Igor Sikorsky, pioneer engineers in the field of large flying boats of the type already in service across the Pacific, had begun work on larger versions of the "clipper" type for transatlantic service.

The first experimental transport operations across the Atlantic will probably be started sometime in the Spring of 1936. The same type of flying boats as those used across the Pacific will probably be used. The Postmaster General announced his intention to ask Congress for appropriations for an Atlantic Mail route. There are two possible routes that can be used. One is the Southern route *via* Bermuda and the Azores. This route is somewhat longer than the other alternative which would more closely follow the great circle *i.e.* from New York to Newfoundland directly to Ireland. It is possible that this Northern route may only be used in the summer months because of the prevalence of fog and ice in the winter months.

AIRCRAFT ACCIDENTS

Fatalities.—The scheduled air lines of the United States set new safety records by flying 990,660 miles per accident and 40,714,686 passenger-miles per passenger fatality in the first half of 1935. Although the total number of miles flown was large (28,729,128 miles) the number of accidents was unusually small. Air-transport craft were involved in 29 accidents in the first half of 1935. Only once before had the number of accidents in a six-month period been less, and that was in the first half of 1934 when there were 27 in 21,517,658 miles flown. There were five fatal accidents, in which four passengers and five pilots lost their lives. Of previous six-month periods for which statistics are available, three had fewer than four passenger fatalities, 11 had more. The new high for passenger-miles flown per passenger fatality—40,714,686 for the first six months of 1935—is more than three times as great as the average for the last five years. The previous high in this category was 38,321,196 in the first half of 1933. In the last half of 1934 it was 26,339,197.

Causes.—Causes of accidents on all of the air lines were as follows:

Personal errors	38.27 per cent
Power-plant failures	13.8 per cent
Airplane failures	10.35 per cent
Weather	20.34 per cent
Airport and terrain	13.79 per cent
Undetermined and doubtful	3.45 per cent

Safety Regulations.—At the close of the year more stringent regulations were set up by the Department of Commerce regarding radio beacon flights by itinerant flyers in conditions of no visibility. The radio beams have been used so much by pilots having only a receiver that definite altitudes have been assigned for different directions. The west bound planes on the transcontinental airways must now fly at even numbered altitudes, *i.e.* 2,000, 4,000 feet etc., whereas the east bound planes fly at odd numbered altitudes. Also only planes with two-way radio will be permitted on the airways. A plane flying along a beacon route in conditions of no visibility must advise its airport destination five minutes before arrival. This regulation has been made imperative due to the increased volume of traffic at the transcontinental airports and the increased risk of collision while circling around the field preparatory to landing. At Newark, the world's busiest airport, there have been as many as five airplanes flying around at definite altitudes specified by the traffic manager with no danger and waiting for the order to land. In such a manner all danger of collision is removed and the need for stringent regulations, such as restricting the use of an airway in conditions of no visibility only to ships having two-way radio, is evident.

AIRPORTS

New Projects.—The Bureau of Air Commerce has approved 344 airport projects which have been proposed in various cities for development under Works Progress Administration allotments. Approval by the Bureau means that the airport site has been examined by a Bureau representative and found to be adequate and suitable and that the work contemplated will contribute to safety and dependability of flight. The Bureau itself does not allot funds, but its approval is required in each case by the WPA before authority to expend Federal funds upon an airport project can be granted. Work to be undertaken on existing airports includes grading and conditioning of additional landing area, repairs to existing landing area, installation or extension of hard-surfaced runways, construction of drainage systems, erection of hangars or other buildings and incidental repair and maintenance work. Other projects involve the establishment of new airports.

Number.—On Nov. 1, 1935 there were a total of 2,382 airports and landing fields in the United States. A detailed subdivision follows:

Municipal airports	738
Commercial airports	503
Department of Commerce intermediate fields	290
Army airdromes	63
Naval air stations (including marine and Coast Guards)	26
State-operated fields	44
Marked auxiliary fields	641
Private fields	54
Fields for miscellaneous Government activities	23
Total	2,382

Airports and landing fields having any night-lighting equipment:	
Municipal	248
Commercial	102
Intermediate	277
Army	32
Navy	13
State	8
Auxiliary	9
Private	7
Total	696

AIRWAYS

Mileage.—On July 1, 1935 there were 20,769 miles of lighted airways and 945 miles of day routes. Marker beacon lights totalled 1,841. In addition there were 12,739 miles of teletypewriter circuits for the transmission of weather reports as well as 73 radio broadcast stations and 119 radio range beacons.

Blind Landing.—At the end of the year blind landing systems were being installed at 12 of the leading airports. This will permit pilots to descend through low clouds and land under very low ceilings.

Maps.—The entire United States has been charted with 87 maps designed particularly for the airman. Forty-eight of these maps are now in circulation and the others are being corrected in accordance with the findings of flight checks covering 400,000 miles.

AIRCRAFT MANUFACTURE

Production.—Airplanes manufactured in the United States during the first six months of 1935 totaled 851, of which 517 were for domestic civil use, 173 for military delivery and 161 for export. A detailed subdivision of the types manufactured follows:

Aircraft Production (1st 6 months 1935)

Monoplanes:	
Open cockpit (landplane):	
1-place	21
2-place	[1]85
Total, open	106
Cabin (landplane):	
1-place	2
2-place	212
3- to 7-place	[2]71
8-place	5
9- to 11-place	[3]10
12-place and over	[4]36
Total, cabin	[5]336
Total, monoplanes	442
Biplanes:	
Open cockpit (landplane):	
1-place	[6]8
2-place	12
3-place	6
4-place	1
Total, open	27
Cabin (landplane):	
4-place	47
5-place	[7]1
Total, cabin	48
Total, biplanes	75
Total domestic civil aircraft	517
Military airplane deliveries	173
Airplanes exported	161
Grand Total	851

In addition to the above there were also 20 gliders, one autogiro, and seven lighter-than-air craft produced during this period.

[1] Includes 1 seaplane and 1 convertible
[2] Includes 1 seaplane and 1 amphibian
[3] Includes 1 amphibian
[4] Includes 1 amphibian and 1 flying boat
[5] Includes 33 multi-engine aircraft
[6] Includes 1 convertible aircraft
[7] Amphibian

Exports.—The total value of exports of airplanes, engines and accessories was $11,214,999 for the first nine months of 1935. Some 54 countries purchased domestic products during September, the total foreign purchases for that month being $1,106,374. Countries importing aircraft and accessories were Great Britain, Italy, Netherlands, China, Japan, Philippine Islands, Mexico, Siam, Brazil, Canada, Argentina, Australia, Sweden and Panama.

RESEARCH

National Advisory Committee.—The bulk of the systematic research needs of the Army, Navy and the aircraft industry are filled by the National Advisory Committee for Aeronautics. This committee is charged with the supervision and direction of the scientific study of the problems of flight with a view to their ultimate practical solution. This committee periodically issues technical reports which give the results and conclusions of various experiments in the field of aerodynamics, floats, structures, vibration, controllability and engine research. The reports are almost internationally famous for their contents as well as the method of presentation. The committee has tried to meet the practical needs of the industry and has succeeded admirably. The outstanding performance of domestic airplanes both commercial and military has been the direct result of systematic research. Optimum locations and types of various engine cowlings, wings, struts and landing gears as found in the full scale tunnel, where a full size airplane is tested, have been determined.

Controllability.—The extensive research program regarding control, particularly lateral control, at slow speeds has continued throughout the year. The result has been the discovery of new type of aileron and spoiler system which from first tests seems to indicate great promise. The problem of the uncontrolled spin has been brought nearer complete solution by the completion of a new vertical tunnel wherein scale models dynamically similar to the actual airplane are spun under controlled conditions of wing loading, inertia and other related factors. Hitherto the actual spin characteristics of military airplanes was only determined by actual flight tests sometimes with the loss of the airplane, if an uncontrolled spin developed.

Airfoils.—The research program produced a new airfoil whose high lift, low drag and efficiency characteristics surpass those of any previous airfoil developed. The direct results will be reflected in the increased speeds and efficiencies of the new airplanes now on the boards. In view of the increased speeds of airplanes extensive pressure distribution tests have been made to remove any doubt regarding the actual load distribution on wings.

Lift Increase Devices.—The use of flaps on airplanes is now almost universal. However, research has continued and shown the way to obtain easier operation of flaps. The use of flaps on the ''clean'' airplanes of today is almost a necessity if a steep glide is to be obtained. In some cases the ailerons have been drooped to give increased lift necessary to obtain slower landing speeds. The controls for drooping the ailerons have been made integral with those for the operation of landing flaps.

Engines.—The aircraft engine manufacturers have for the most part conducted their own research programs with gratifying results. In one particular case an engine previously rated at 575 HP now produces 900 HP with the same displacement. The increased output has been obtained by various refinements in the induction system and shape of the cylinder head, increased compression ratios. A change in the induction system has been reponsible for reducing the specific fuel consumption from .55 pounds per brake horsepower to a figure of .43. This reduction in full consumption as well as the use of automatic mixture controls has made possible such long range commercial flights as those of the ''clipper'' ships across the Pacific. A better design of cylinder baffles has resulted in fewer cooling problems for the airplane designer. Much smoother engine operation has been obtained by the use of a dynamic damper, which is in principle a pendulum counterweight instead of the usual rigidly mounted counterweight. Other improvements have been controlled pressure lubrication of valve gear and more durable cylinder barrels.

Radio Compass.—The Army Air Corps development of a radio compass practical for use in air navigation on long flights over water was one of the many factors which made transoceanic transport possible. Heretofore the usual method employed in air navigation over the ocean has been celestial navigation and radio communications between aircraft and vessels and shore stations to determine position. The radio compass, as employed by aircraft in flights over land, is a very simple device which operates in the following manner: the pilot turns on the receiving set and moves the station selector to the frequency of the station he desires to pick up. It may be a commercial broadcast station, a Department of Commerce radio beacon, or any other type of transmitting station that sends out signals either continuously or at frequent intervals, and within the receiving range of the compass. He tunes in on this station until the maximum volume is received and from that time on he merely watches a needle on his instrument board which is pointed vertically at zero. If the plane veers off to either side, the needle will move accordingly and therefore provides a warning that the craft is deviating from its course. Hence, the airman's only duty is to fly the plane in such a direction that the needle constantly points on zero. His course will lead directly to the radio station and from there he orients himself with respect to the landing field. Drift can be compensated for by adjusting the loop.

RADIO

By W. R. G. Baker

General Electric Company

GENERAL

Wave Propagation.—The advancement of the radio art continued its fast pace during 1935 with research workers and engineers making notable contributions to the knowledge of electromagnetic waves and the technique of their application. Intensive studies were made of the phenomena of wave propagation with a view toward determining the most suitable wave-lengths for particular services and the effects on these waves of atmospheric changes, solar changes, topographical variations, and other natural or man-made conditions. The results of these studies have made possible fairly accurate forecasting, hours and even days ahead, of the behavior of various wave-lengths at different periods of the day.

Communication at San Francisco-Oakland Bridge Construction.—New and extended uses of radio were made during the past year. One interesting application was made in the building of the San Francisco-Oakland bridge where construction work, carried on simultaneously at many different points, and the movements of barges and mobile marine equipment had to be efficiently directed. Thirty-four complete transmitters and receivers, operating on wave-lengths between five and seven meters, were used in this system and proved to be a reliable as well as economical means of communication. Four different frequency channels were used in order to avoid excessive interference between stations, and as many as 1,100 separate conversations have been handled over one of the four channels in a 24-hour period.

Lead of U. S. in Receiving Sets.—The United States continued to lead the nations of the world in total number of radio receiving sets and in number of sets per 1,000 of population. According to statistics compiled by the Bureau of Foreign and Domestic Commerce, there are approximately 56,221,784 radio receiving sets in the world and of these 25,632,981 are in North America and approximately 23,000,000 in the United States.

TELEVISION

Technical Problems.—The efforts of many research workers were directed toward the solution of technical problems which have stood in the way of commercial television. Reports from various laboratories indicated images of greater definition and brilliance made possible through improved technique and the discovery of new fluorescent materials for the screen in cathode-ray tubes. Early television images had a definition of 30 lines, whereas during the past year images with 343 lines were produced.

Development of Co-axial Cable.—Of particular importance to television was the development of the co-axial cable which permits wide bands of frequencies to be transmitted with very low losses. Such a cable, together with suitable repeated units at proper intervals, can be used to conduct television signals over practically any distance and provides the necessary link for a television broadcasting network. The American Telephone and Telegraph Company announced plans for installing a co-axial cable between New York City and Philadelphia which will be capable of passing a band of frequencies more than 1,000,000 cycles wide for television images or handling as many as 200 simultaneous telephone conversations. The plans call for its completion in the early part of 1936, and the cost is expected to be $580,000.

Field Tests.—Early in the year the Radio Corporation of America made public plans for the expenditure of $1,000,000 in television field tests. Construction was started on a powerful transmitter atop the Empire State Building in New York City to broadcast images to the metropolitan area on wave-lengths below ten meters. A number of receiving sets are to be built and installed at different points within the range of the transmitter. The whole system will be operated experimentally for some time to develop a service which can be considered practical and acceptable to the public. It is expected that the tests will begin during the first months of 1936.

ELECTRON MULTIPLIERS

Until comparatively recently, the secondary emission of electrons from the elements of vacuum tubes was looked upon as a necessary evil which placed limitations upon the tubes to perform certain functions. In the pentode type of tube, which is intended for high amplification, a so-called suppressor element is used to prevent secondary emission from the plate. This same phenomenon is the principle of operation of several types of electron multipliers which were developed during the past year. It was found applicable to photo-cells as well as to electron tubes used to perform the functions of oscillation, modulation, and amplification. In these tubes primary electrons from a cathode are made repeatedly to bombard highly emissive surfaces, resulting in the liberation of large numbers of secondary electrons. Emission ratios of eight or ten per stage thus can be obtained, and tubes with as many as ten and twelve stages have been constructed making possible amplification of several million times in a single tube. These tubes require about the same amount of power as conventional tubes for equivalent output, but the signal-to-noise ratio in the electron multiplier tube is 60 to 100 times greater than that of the usual photo-cell and thermionic amplifier.

FREQUENCY MODULATION

In November Major E. H. Armstrong, inventor of the regenerative, super-regenerative, and superheterodyne circuits, revealed details of his new wide-band system of radio transmission embodying frequency-modulated waves rather than the conventional amplitude-modulated waves. In this system the amplitude of the emitted frequencies remains constant while the shift in frequency of the carrier is made proportional to the depth of modulation. The rate at which the frequency is varied is made inversely proportional to the modulation current frequency. Experiments were conducted during the spring and summer with a transmitter in the tower of the Empire State Building, New York City, operating on a frequency of 41 megacycles, and a receiving station located 85 miles away in Haddonfield, N. J. The total frequency deviation was 150 kilocycles, or 75 kilocycles on either side of the forty-one megacycle center.

Advantages of this system are: (1) Transmitter is operating at constant load and at optimum efficiency. With amplitude modulation, considering 100 per cent modulation, the peak power is four times the unmodulated power. (2) Improved signal-to-noise ratio. The circuits in the receiver are such that they respond to the desired signal much more readily than to static and other disturbances. This system gives an improvement over conventional amplitude modulation of a 1,000 to one in power ratio when the intensities of the desired signal and the noise due to static and tube hiss are of the same order. (3) The elimination of selective side-band fading encountered in ultra-high-frequency transmission.

RECEIVER CIRCUITS

Disclosures were made during the year of several interesting and useful circuits for radio receivers. One of these embodied a system of automatic selectivity control in which the selectivity of the receiver is controlled by the strength of the desired signal and thus allowing reproduction of a wider band of audio frequencies when local stations are received. In receiving weak stations the selectivity is increased, thereby reducing the high frequency hiss and other noise which would be objectionable. Other circuits incorporated automatic devices for tuning the receiver to the exact point of resonance with the received signal and correcting for slight changes of frequency within the receiver.

TRANSMITTERS

There was continued improvement in the design of radio transmitters during 1935. Lighter and more compact units were brought out for use in aircraft and other mobile equipment. Especial attention was given to utilizing the radiated power from radio transmitters to the best advantage through the use of various types of directive antennas. In this way the range of communication transmitters has been increased and, in the case of broadcast transmitters, the energy has been directed toward the centers of population which it is desired to reach instead of being distributed uniformly over barren and thickly-settled areas alike. The new transmitter of station WOR was so located and its antenna so designed that most of the radiation is in the direction of New York City and Boston, on one side, and toward Philadelphia, Baltimore, and Washington, D. C., on the other side. Another example of the flexibility and accuracy of antenna design is illustrated in the case of station WLW which was licensed in 1934 to use 500 kilowatts of power, having previously used 50 kilowatts. Shortly after the additional power was put into use complaints were received from Toronto, Canada, of interference in that region between the signals from WLW and those of other stations. A change in the antenna system was made which resulted in the Toronto area receiving signals of the same strength from this station as before the increase in power while other regions continued to receive the added radiation.

New types of quartz crystals, having very low temperature coefficients, were developed for frequency control of transmitters. The average temperature coefficient of these crystals is approximately one cycle per 1,000,000 per degree Centigrade from below freezing to above 50 degrees Centigrade. In many installations temperature control devices are unnecessary with this type of crystal.

RECEIVERS

Approximately 95 per cent of the radio receivers produced in the United States during 1935 were of the superheterodyne type, the remaining five per cent using various forms of tuned radio frequency circuits and, in the case of some ultra-high-frequency sets, the highly-sensitive super-regenerative circuits were used.

The majority of 1935 home broadcast receivers were capable of receiving short-wave as well as standard-wave broadcasts and a large number also tuned the longer wave-lengths between 700 and 2,100 meters. A few included the ultra-short-wave bands between four and 15 meters. A number of so-called ''high-fidelity'' receivers incorporated manual selectivity controls which enable the operator to vary the receiver selectivity and the high-frequency audio response. A cathode-ray type of tuning indicator, having high sensitivity and negligible time-lag, was featured in some instruments. More attention was given to mechanical design particularly in the all-wave receivers which necessarily have elaborate switching for the different wave-bands and a separate frequency calibration scale for each band. The need for compact and efficient coil units, proper illumination and designation of frequency calibrations, as well as easily-operated band-changing and tuning controls required the best of the designer's skill. The majority of manufacturers used the new metal tubes entirely, or in combination with glass tubes, in their fall line of receivers. The use of metal tubes made necessary only minor changes in circuit and mechanical design. Originally, the metal tubes were designed as single-function tubes, but later the trend was to introduce also compound tubes of this type.

RADIO-PHONOGRAPH COMBINATIONS

The increased demand for high-quality phonograph records and better reproduction led to improvements in the design and performance of radio-phonograph combination instruments. Probably the most important advance in the technique of record reproduction was the development and application of a system for automatic volume expansion. Measurement has shown the volume range of a full symphony orchestra to be as high as 75 decibels. Due to the limitations of record materials and recording processes the maximum volume range which practically can be recorded is about 45 decibels. The volume expander is designed to restore in the reproduction the original volume range which thus has been compressed during recording. Its effect is to reduce the volume of low passages, which has been raised during recording to over-ride noise and surface scratch, and to raise the volume of high passages which has been reduced in recording to meet the limitations of the record. The result is more nearly natural and life-like reproduction.

TUBES

The most outstanding advance in thermionic tubes in several years was the development of the metal tube, introduced during the first half of the year. These tubes, encased in a steel shell in place of glass, are much smaller in size than corresponding glass tubes and possess the advantages of shorter leads to elements, improved shielding with elimination of external shields, and more rugged construction. The perfection of the metal tube was made possible by new methods of electric welding and the development of an alloy, called Fernico, having the same temperature coefficient of expansion as glass, which is used with small glass beads to provide an air-tight juncture where the element leads enter the evacuated portion of the tube. Because of electrical and mechanical differences between the metal tubes and the ordinary glass tubes, the two types were not interchangeable.

MANUFACTURE AND SALES

The year 1935 was a prosperous one for the radio manufacturers with production greater than during any year since 1930. During the peak of production in the fall more than 50,000 factory workers were employed at wages as high or higher than during operation under the NRA codes. The continued popularity of short-wave reception, the desire for better tone quality, and the changes in cabinet design have been reflected in a demand for new receivers to replace obsolete types which have served for many years but have not been replaced largely because of economic conditions. The increase in purchasing power throughout the country was felt in all branches of the industry. Export sales as well as sales of commercial and Government apparatus showed an increase over those of preceding years. The trend in home receivers toward larger and higher quality instruments resulted in a higher average unit price than in 1934. It was estimated that unit sales of home receivers and automobile receivers during 1935 would pass the 5,000,000 mark. The following figures, quoted from *Radio Retailing,* show sales of radio apparatus for the years 1930 to 1934 inclusive:

SALES OF RADIO APPARATUS

Product	1930	1931	1932	1933	1934
Radio Receivers*					
Table Models	1,130,400	1,800,000	1,900,000	2,226,000	2,204,000
	$56,520,000	$63,000,000	$57,500,000	$50,085,000	$60,580,000
Consoles	2,663,400	1,512,000	577,000	856,000	1,100,000
	$272,678,000	$143,100,000	$60,210,000	$52,216,000	$62,300,000
Motor Car Sets	34,000	108,000	143,000	724,000	870,000
	$3,000,000	$5,940,000	$7,150,000	$28,598,000	$28,000,000
Tubes					
At Retail	24,000,000	28,500,000	29,500,000	32,769,000	28,642,000
To Set Makers	28,000,000	25,000,000	14,800,000	22,836,000	26,550,000
Total Retail Value	$119,600,000	$69,550,000	$48,730,000	$56,599,000	$59,548,000
Batteries Dry, Air Cell, Storage	$23,514,000	$14,100,000	$11,000,000	$10,400,000	$9,200,000
Accessories	$15,120,000	$7,580,000	$4,700,000	$6,200,000	$7,000,000
Parts—Sold to Consumer	$6,000,000	$6,000,000	$6,900,000	$8,500,000	$9,000,000
Grand Total	$496,432,000	$309,270,000	$196,190,000	$212,598,000	$235,628,000

* At retail prices. Sets are priced less tubes. Because of the advisability of separately tabulating all tube sales, these figures do not include the retail value of tubes in sets.

BROADCASTING

With approximately 70 per cent of the families in the Untied States owning radio receiving sets, broadcasting continued its growth and the improvement of its service during the past year. There was a greater demand by advertisers for broadcasting time than ever before with the result that more of the daytime hours were given over to sponsored programs. The large broadcasting networks made considerable effort to improve the quality of their programs both as to rendition and as to content. Definite standards of ethics were established which resulted in the elimination of certain objectionable forms of advertising and types of treatment in program material. Re-broadcast of foreign programs showed further increase, and more American programs were broadcast on short-waves for the benefit of foreign listeners. The following analysis shows the types of program material and the percentages of time devoted to each by the National Broadcasting Company during the first six months of 1935:

Music	63.4%
Literature	13.5%
Lectures	7.6%
Novelty	4.0%
Children's	3.3%
Current Topics	3.1%
Women's	1.6%
Religion	1.3%
Physical training	0.9%
Outstanding events	0.8%
Reports	0.5%

Experiments in high-fidelity transmission and reception were made during the fall through station W2XR and a number of special receivers located in and around New York City. This station operated on a carrier frequency of 1,550 kilocycles, modulated with audio frequencies from 30 to 16,000 cycles. Systems of volume compression and expansion also were tried out. Reports on the results of these tests have been submitted to the Federal Communications Commission.

Beginning Oct. 1, the National Bureau of Standards extended its standard frequency broadcasting service, transmitting frequencies of 5,000 kc., 10,000 kc., and 15,000 kc., at specified times three days each week, from its station WWV at Beltsville, Md. The accuracy of the frequencies is at all times better than one part in 5,000,000.

COMMERCIAL RADIO

During the year R.C.A. Communications, Inc., inaugurated its domestic radio telegraph service between several of the larger cities of the United

States, going into direct competition with the telegraph companies. The stations use automatic transmitters and recorders, the messages being transmitted at a rate of 500 words per minute. Increasing use was made of radio facsimile systems for transmitting pictures and messages for various services. Installations were made on transatlantic passenger vessels to furnish daily newspapers to the passengers en route.

AIRCRAFT RADIO

The majority of private as well as commercial aircraft were equipped with some form of radio receivers and many also included transmitters and radio direction finding apparatus. An important development was the "homing" type of radio compass which enables a pilot to steer a straight course toward any broadcasting station the signals of which he can receive. A visual indicator shows directly the plane's bearing with respect to the wave-front of the radio station.

POLICE RADIO

At the end of the year there were 403 licensed police radio transmitters in the United States. Of this number, 152 operate on wave-lengths between five and seven meters. The trend seemed to be toward two-way systems, utilizing the ultra-short waves, which enable the men assigned to the patrol cars to confirm orders and to keep headquarters constantly informed of their movements. The United States Department of Justice made preparations for establishing a nation-wide radio network and radio-equipped patrol cars for use in its war on crime.

AMATEUR RADIO

The 50,000 amateur radio operators in this country continued their active experimenting in short-wave transmission and reception. For the first time, communication on a wave-length of ten meters was established between Australia and the east coast of the United States. In June, two-way contact was achieved on a wave-length of five meters between stations in Derry, N. H., and Dayton, O., approximately 900 miles apart. Reliable contact also was established over a 90-mile indirect path between Hartford, Conn., and Boston, on a wave-length of two-and-one-half meters. In these tests various types of directional antennas were used.

CHRONOLOGY OF COMMUNICATIONS

(From *The New York Times,* January 2, 1936)

January 11-12—Amelia Earhart (Mrs. George Palmer Putnam) makes solo Pacific flight, Honolulu-Oakland Airport, California—2,408 miles in 18 hours 15 minutes.

February 12—The naval dirigible Macon is wrecked in a mild storm off the coast of California.

April 30—Record flight Los Angeles-New York, by D. W. Tomlinson—average 221.434 miles per hour.

May 16—Eight new records established by Tomlinson and J. S. Bartles in a Douglas DC 1 monoplane: various loads at 169, 191.67 and 190 miles per hour.

May 30—The French liner Normandie sails for New York on her maiden voyage and establishes new transatlantic records: westward, 4 days, 11 hours and 42 minutes; eastward, 4 days and one hour.

June 20—The Marquise Carina Negrone of Italy establishes a new altitude record for women—39,511 feet.

June 30—United States endurance record established by Fred and Al Key over Meridian, Miss.—27 days 5 hours 4 minutes.

July 22—Captain Z. J. Burzynski establishes several records for balloons in Poland—reaches an altitude of 30,961 feet, travels 1,025.5 miles, and remains up 57 hours 54 minutes.

July 30—The Army Air Corps surveys for six new bases provided for by act of Congress.

August 10—Pan American Clipper sets record in flight from California to Wake Island, via Hawaii.

Aug. 16—Will Rogers and Wiley Post are killed in crash 15 miles from Point Barrow, Alaska.

Aug. 20—U. S. A. bomber makes record: flies from Seattle to Wright Field, Ohio, 2,300 miles in nine hours.

Aug. 24—Seaplane record set by General F. M. Andrews in a Martin B-12A bomber: 1,000 km. course at 165.040 m.p.h.

Aug. 29—President Roosevelt signed the new Railroad Retirement Pension Act, also a companion bill to pay these pensions through taxes on railroad payrolls and rail workers' incomes. President Roosevelt signed the Eastman Act amending the bankruptcy laws for the purpose of railroad financial reorganization.

September 12—Laura Ingalls establishes new Los Angeles-New York record for women: 13 hours 34 minutes 5 seconds.

Sept. 13—New speed record is made by Howard R. Hughes at Santa Ana, California: 352.388 miles per hour over 3 k. straightway course.

Sept. 17—The TC-14, largest nonrigid dirigible in the world, holding 374,000 cubic feet of helium makes successful maiden flight over Scott Field, Ill.

Sept. 19—President Roosevelt touches off blast which removes first earth for the 200-mile ship canal across Florida.

Sept. 24—Benjamin King of Washington claims new altitude record in his 524-pound plane rising 16,000 feet.

Sept. 26—The James Gordon Bennett balloon trophy is won by Captain Z. J. Burzynski in the Polonia.

October 15—A new distance record established by Lieut. Commander K. McGinnis in new type of navy seaplane with pontoons that fold into wings: Panama-Alameda, California, 3,443.225 miles.

Oct. 23—The streamlined "Mark Twain" of the Burlington Railroad makes a world record of 122 miles an hour, west of Edison, Neb.

Oct. 24—Pan American Clipper establishes first air mail between Guam and Alameda, California.

November 11—The highest altitude ever attained by man is reached by Captain Orvil A. Anderson and Captain Albert W. Stevens in stratosphere balloon, Exporer II, at Rapid City, South Dakota—72,395 feet.

Nov. 21—Vladimir Kokinski, the Russian flyer, establishes a new altitude for airplanes: 47,800 feet.

Nov. 22-Dec. 1—The China Clipper, 51,000 pounds gross Martin flying boat, enters regular commercial service, making flight from San Francisco to Honolulu, Midway Island, Wake Island, Guam, Manila and returns in 122 hours 42 minutes flying time.

Nov. 29—The China Clipper, with the first transpacific air mail, arrived at Manila in 59 hours and 47 minutes actual flying time from California. The Interstate Commerce Commission authorized drastic reductions in railroad freight rates on citrus fruits from Florida to North Atlantic ports, establishing a precedent in rate making intended to enable railroads to compete more effectively with truck and water transportation.

December 5—Officials of Great Britain, Canada, the Irish Free State and the United States, in conference at the State Department, tentatively approved plans for transatlantic air mail service.

Dec. 6—The China Clipper arrived at Alameda from Manila.

Dec. 9—China Clipper's sister airship, the Philippine Clipper, follows course of China Clipper with passengers and mail.

Dec. 11—At Miami, Florida, Benjamin King, in 550-pound seaplane, covers 500-kilometer closed course in 4 hours 24 minutes 25 seconds; a 100-kilometer course at 80.931 miles an hour. He regains two records for the United States.

Dec. 14—The French flying boat, The Lieutenant de Vaisseau Paris, crosses the South Atlantic from Dakar to Natal.

XIII. MANUFACTURES AND TRANSPORTATION

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

MANUFACTURERS

American Assn. of Creamery Butter Manufacturers, 208 S. LaSalle Street, Chicago, Ill.

American Automobile Assn., Pennsylvania Ave. at 17th Street, Washington, D. C.

American Bottlers of Carbonated Beverages, 726 Bond Bldg., Washington, D. C.

American Brush Manufacturers Assn., 505 Arch St., Philadelphia, Pa.

American Hardware Manufacturers Assn., 342 Madison Ave., New York City.

American Institute of Steel Construction, 200 Madison Ave., New York City.

American Iron and Steel Institute, 350 Fifth Ave., New York City.

American Paper and Pulp Assn., 370 Lexington Ave., New York City.

American Petroleum Institute, 250 Park Avenue, New York City.

American Zinc Institute, Inc., 60 E. 42nd Street, New York City.

Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh, Pa.

National American Wholesale Lumber Assn., 41 E. 42nd Street, New York City.

National Assn. of Cotton Manufacturers, 80 Federal Street, Boston, Mass.

National Assn. of Ice Industries, 163 W. Washington Street, Chicago, Ill.

National Assn. of Manufacturers of the U. S. of America, 11 W. 42nd St., New York City.

National Assn. of Wool Manufacturers, 80 Federal Street, Boston, Mass.

National Automobile Chamber of Commerce, 366 Madison Ave., New York City.

National Electrical Contractors Assn., 420 Lexington Ave., New York City.

National Electrical Manufacturers Assn., 155 E. 44th Street, New York City.

National Lumber Manufacturers Assn., 1337 Connecticut Ave., Washington, D. C.

National Machine Tool Builders Assn., 1220 Guarantee Title Bldg., Cleveland, O.

National Metal Trades Assn., 126 Liberty Street, New York City.

Rubber Manufacturers Assn., 250 W. 57th St., New York City.

Silk Assn. of America, 468 Fourth Ave., New York City.

United States Brewers Assn., 55 W. 42nd St., New York City.

United Typothetae of America, Tower Building, 14th and K Sts., N. W., Washington, D. C.

TRANSPORTATION AND COMMUNICATION

Aerial League of America, 280 Madison Ave., New York City.

American Assn. of Railroad Superintendents, 111 Union Station, St. Louis, Mo.

American Railway Assn., 30 Vesey St., New York City.

American Railway Engineering Assn., 59 E. Van Buren St., Chicago, Ill.

American Road Builders Assn., 938 National Press Building, Washington, D. C.

American Steamship Owners Assn., 11 Broadway, New York City.

Associated Traffic Clubs of America, 917 Majestic Bldg., Indianapolis, Ind.

Cruft Laboratory, Harvard University, Cambridge, Mass.

International Amateur Radio Union, 38 LaSalle Road, West Hartford, Conn.

Maritime Assn. of the Port of New York, 80 Broad St., New York City.

National Aeronautic Assn., 1909 Massachusetts Ave., Washington, D. C.

National Council of American Importers and Traders, Inc., 45 E. 17th St., New York City.

National Highway Users Conference, National Press Building, Washington, D. C.

National Industrial Traffic League, 1 La Salle Street Bldg., Chicago, Ill.

National Traffic Service Assn., 105 N. Moore St., New York City.

North American Export Grain Assn., Inc., 2 Broadway, New York City.

Railroad Owners Assn., 502 Chandler Building, Washington, D. C.

Railway Business Assn., 1406 Packard Building, Philadelphia, Pa.

Traffic Vigilance League, Inc., 401 Broadway, New York City.

United States Bureau of Standards, Washington, D. C.

United States Naval Research Laboratory, Washington, D. C.

Western Railways' Committee on Public Relations, Room 2018, 105 W. Adams Street, Chicago, Ill.

PART FIVE

SOCIAL CONDITIONS AND AIMS

DIVISION XIV

IMMIGRATION AND POPULATION

RACE CONDITIONS IN THE UNITED STATES

By Harry H. Laughlin

Department of Genetics, Carnegie Institution of Washington

MATTERS OF RACE DISCRIMINATION

Pennsylvania recently passed a law banning all discrimination against any individual because of race, creed or color, in hotels, inns, restaurants, or other places of public gathering. Owners of many of these establishments have stated that they had no intentions of obeying the law, and did not expect that any white jury would convict them for its violation. The bill was hurried through the closing sessions of the legislature, and it was not until it had reached the Governor for signature that the legislature realized what the bill contained. The lower chamber quickly passed a resolution, asking for the return of the bill, but it had already been signed.

Rights for Negro Students.—A negro has obtained a mandamus order directing the University of Maryland to admit him to the law school. The University has appealed to the Supreme Court. Speedy action was promised. A considerable number of women students have threatened to resign if a negro is admitted. A negress has applied for admission to the University of Virginia, and threatened to take court action when her application was refused. Conditions at the University of Missouri were investigated by a negro lawyer with a view to legal action if warranted. The southern states have separate state supported colleges for negroes, which do not, however, include graduate schools. Any qualified negro who desires to do graduate work is given a scholarship with which he may attend the graduate or professional schools of some University which accepts negroes. Authorities in the southern states say that they are willing to institute graduate and professional schools in the local negro colleges whenever the demand is sufficient. The Association for the Advancement of Colored People intends to continue the fight for equal rights for negro and white students in all state supported universities, without much likelihood of immediate progress in the south, however.

Scottsboro Case.—The perennial Scottsboro case has been reopened. A new Grand Jury panel was drawn, including two negroes, the first to serve on a Grand Jury in the County. It was due to the absence of negroes from previous jury lists that the Supreme Court decided that the defendants had not been given a fair trial and that their constitutional rights had been violated. Alabama is now proceeding in the attempt to convict the men along entirely constitutional lines. The Grand Jury immediately proceeded to indict the nine men.

CONSTITUTION FOR INDIANS

Early in November, the Flathead Indians of Montana became the first tribe to receive a constitution under the Indian Reorganization Act of 1934. Under the terms of this act, each reservation decided by vote whether or not it wanted a constitution, accompanied by a Federal Charter, for a corporation to run its business affairs. Loans are available to help pay expenses. Up to the beginning of November, 176 reservations had voted to accept the plan, 76 to reject it. The Flatheads were the first to draw up and approve a constitution. According to the latest available information, there are at present about 350,000 Indians in the United States, of whom about half are full blooded, the others with various admixtures, frequently (especially in the eastern and southern states) of negro. It is estimated that there were about 860,000 Indians living in this country at the time that Columbus arrived.

BIRTH RATE

An article by O. E. Baker and E. H. Taylor in the August *Country Gentleman,* entitled "Years of Grace," discussed the problems raised by the falling birth rate in this country, and the increasing proportion of older people. This fall in the birth rate has been continuous for a long time, particularly in the cities. At the present time, the city population is failing by a considerable margin to reproduce fast enough to maintain itself. The rural and farm population, while still supplying a margin of safety for itself, is barely providing sufficient numbers of children to make up for the losses in the city population. Immigration no longer is an important factor in increasing the population. The rural sections that have the highest birth rates are generally the poorest, with a very high proportion of families on relief. In the urban population, the loss is felt most strongly in the middle classes, the skilled, and particularly the unskilled, labor classes more than providing for their continuance. Hitherto the loss in the urban population has been made up by migration from the farms, due to the attractive wages offered. The underlying reason for the drop in the city birth rate is an economic one, the same relative situation occurring in all the cities of the world. There does not appear to be any difference in the age of marriage in the city and on the farm, nor is there any appreciable difference in the age at which the first child is born, but the number of children is very much smaller in the cities. At the present time, there is an unusually large proportion of young people, due to the large birth rates 20 to 40 years ago, so that the present birth rate is higher than it otherwise would be. When the present generation gets beyond the breeding stage, there will be a sharp falling off in the number of available parents, and, consequently, in the birth rate. The problem is further complicated by the difficulties as to what to do with the present surplus farm population. Due to the depression, great numbers of urban workers returned to the farms, and further large numbers of farm children did not come to the city, for the same reason. The present difficulties with surplus farm products indicate the existing number of farmers to be amply sufficient to provide food for the entire population. If all these people remain on the farms, there is a very distinct menace of further agricultural overproduction the possibility of which must be considered in any economic plan for the development of the country. Of course, if there should be marked industrial recovery, it is likely that the problem would in part solve itself. The authors believe that the most helpful method of solving the problem is by further decentralization of industry, which would allow more industrial workers to have gardens or farms where they could work part time, raising food for their own use. A tendency in this direction is evident, but has not yet been carried very far.

The authors do not believe that there are any new industries in sight that offer very promising fields for increasing the number of available industrial positions. Most of the suggested new lines, they indicated, would cause at least as much unemployment as they would give re-employment. They believe that air conditioning and the manufacture of paper from southern pine are two of the few promising industries.

They concluded by stating that although the problems due to the falling birth rate are serious questions, which we shall have to meet in the relatively near future, we have a few years of grace before the problem becomes acute, and it would be as well if we spent this time preparing ourselves to meet the emergency when it becomes more pressing.

BACK TO THE FARM MOVEMENT

During the prosperous 'twenties, the migration from the farms to the cities reached a maximum yearly net of 1,250,000 and an average of over 500,000 people. This movement continued through 1929. There was a sharp change, however, from a net gain for the cities of 477,000 in 1929, to a net loss of 77,000 in 1930. This trend was accentuated in the two following years, the net loss in 1932 being over 500,000. In 1933 and '34, however, the trend again reversed itself, the net gain to the cities being 227,000 and 211,000, respectively. This, however, does not indicate a renewal of the previous flow to the cities, but merely a greater reduction in the farmward than in the cityward flow. In 1934, migration to farms was the lowest since 1921, and that from the farms the lowest since 1920. In spite of the loss in farm population through migration during these two years, the excess of births over deaths on the farms was such that on Jan. 1, 1935 the farm population reached an all-time high mark of 32,770,000. Except for Jan. 1, 1934, the nearest approach to this was in 1910. The U. S. Department of Labor considered that the movement to the farms was reduced because of improvement in industry, better organized unemployment relief, and a great reduction in the supply of available farm housing.

Census reports of the U. S. Department of Agriculture for 1935 have been issued for 13 states. In these states, there was a decrease of 25,000 farms between 1925 and 1930, and an increase of 60,000 between 1930 and 1935. There was an increase of 6,000,000 acres in farms during the first period but of 13,000,000 during the second. The greatest increase has been in small farms—those of people who do not try to raise food for the market, but merely to supply themselves and their families—and there has been an even greater increase in the number of people who have small garden plots which do not count as farms in the farm census. This is considered a beneficial trend when combined with decentralized industry into something on the order of subsistence homesteads. It has, however, been pointed out that the previous trend has been for larger and more efficient farms. It is the general belief that small farms, while they will keep their owners alive, will generally do little, if anything, more. The greatest movement back to the farms has been in the poorest regions, the cut-over areas of Michigan and Wisconsin and the mountains of West Virginia and eastern Kentucky. At the same time, there are numerous untilled farms in the richest farming portions of Iowa and other midwestern states. The reason is not far to seek. The large, fertile farms have been cumbered with mortgages and other debts. The man moving into the poorer districts generally does not have this problem to face, and, furthermore, is often a squatter. Great numbers of hillsides in the central and southern Appalachians are being tilled, where the slopes are so steep that farming is utterly destructive to the soil. In addition, most of these sub-marginal farmers continue to require relief for all purposes other than their supply of food, and, if anything goes wrong, even for that.

EMIGRATION FROM THE UNITED STATES

The depression has changed, for the first time in our history, the direction of migration. We have been losing more people by emigration than we have been receiving by immigration. The wave of immigrants from Europe was cut down in 1924 by our immigration laws. The number of people returning to their old homes has been considerably increased, due to the increased difficulties of making a living in this country. Another striking movement has been the return of the tide of Mexicans from the southwest and mountain states. The Mexican peons are able to live on little or no income at home, whereas in the United States they require at least some cash. With the depression, jobs became scarce, and many Mexicans returned home. During the calendar year 1931, for example, 250,000 people returned to Mexico through the states of California and Texas. This movement, while initiated by the depression, was given additional impetus from the assistance granted returning natives by the Mexican government. Several great irrigation projects have been opened to farmers, great road construction projects have been initiated, and archaeological and other projects put under way for the employment of labor, and free railroad transportation supplied to the returning wanderers. So, while it is impossible to give exact details as to the total number of Mexicans involved, still there can be no doubt but that it has been a movement of major proportions.

IMMIGRATION PROBLEMS

An article in *Nation's Business* for March, by T. N. Carver, Emeritus Professor at Harvard, entitled "Where We Need Planning the Most", discussed the problems raised by our mass of foreign born. The danger of unlimited over-population is at an end, he believed, although there are a few leaks in the barriers, as that from Mexico. More important is the unlimited breeding of mental defectives. Our real foe, however, is congestion, both local and occupational. The first is relatively simple to solve, the latter extremely difficult. Several steps were advocated for the solution of this second problem:—ending of all immigration; sterilization or complete segregation of mental defectives; extension of birth control information to the poorer groups; encouragement of industrial enterprise in order to increase available jobs, and the enlargement and improvement of the educational systems to supply more trained people to occupy the higher positions in industry.

PHILIPPINE IMMIGRATION

Measures have been taken to place the natives of the independent Philippine Islands on a footing with the natives of other foreign countries. All natives of the Philippines will hereafter be considered, in so far as immigration is concerned, as aliens. The Philippines were given an annual quota of 50 immigrants to the United States. Persons may enter the Territory of Hawaii if they do not seek immigration or passport visas, provided the Department of the Interior declares that they are needed for local industries in the Territory.

Restrictions of immigration of Filippinos have been in effect since the end of April, 1934. Filipinos are not permitted to leave Hawaii for continental United States except upon the issuance of a certificate of identity by the immigration official at Honolulu, which shows the individual's right to enter continental United States under existing immigration laws. Such an individual may be refused admittance at any time upon the demonstration of cause. Any citizen of the Philippines arriving in continental United States without such a certificate is presumed inadmissible until the contrary is definitely established.

While citizens of the Philippines are subject to deportation in the same manner as are other aliens, no Filipino who has lived in the United States continuously since April 30, 1934 shall be deported for any act that he performed or disability that existed prior to May 1, 1934. Any citizen of the Philippines who voluntarily desires to return home may apply to an immigration officer for return to the Philippines at government expense. The persons desiring to leave the country are transported by rail to specified ports on the Pacific coast, and thence are given passage to Manila either in an Army or Navy transport or in a steamer owned by Americans and operated under American registry. This offer is in effect only until the end of 1936.

There is no authority to deport any Filipino other than the authority available for deporting undesirable aliens in general.

BASIC PRINCIPLES OF IMMIGRATION CONTROL

A report of the Special Committee on Immigration and Alien Insane to the Chamber of Commerce of the State of New York by H. H. Laughlin contained a discussion of the basic principles involved, the necessity for the establishment of common standards for immigration, naturalization and non-deportability, the numbers of foreign born in American custodial institutions, the loop-holes in the present laws on immigration, and a series of recommendations by which it is hoped to remedy the difficulties of the present system. The remaining discussion in this review is based on this report.

Any nation which is truly independent has a right to determine what people shall enter that country, and which other people shall be excluded, either for reasons of national defense, general policy, or for any other reason. As long as the nation is a sovereign state, no foreign government nor any group of individuals other than native-born citizens of the nation itself has any right to make objections to the policy adopted with regard to the restriction of immigration. Many foreign nations enforce much more stringent limitation of immigration than does the United States, Sweden, for example, refusing to permit any immigration whatever.

There are two types of nations with regard to the question of immigration —those which receive immigrants and those which send them out. During all of her history, the United States has been an immigrant-receiving country. It is only natural that the point of view of an immigrant-receiving nation should be different from that of an immigrant-sending nation. But in so far as immigration into any particular country is concerned, the point of view of the nation from which the immigrants come is a relatively minor one and should have no influence on the restriction or otherwise of immigration.

If a nation wishes to maintain itself in the front of the civilized world, it must keep a fairly uniform national make-up. There is no doubt that certain racial types are more closely related to each other than they are to certain other types. It is only fitting and entirely reasonable that a nation should desire to restrict immigration to those racial types which can be assimilated within the national entity without causing too great a change in the national heritage. Any immigrant is fundamentally an addition to the national germ-plasm, a future son-in-law to the rest of us. The United States being predominantly Caucasian, future immigration should be limited to Caucasians. This would remove the danger that any particular non-Caucasian nation would feel specifically insulted by such legislation. Moreover, the United States has now reached a point where we no longer need any great accessions of unskilled labor, so that not only can we afford to be, but from the point of view of the future of the United States, we should be, highly selective in our choice of immigrant stock. We should refuse to admit as immigrants not only those who have lower mental abilities than do the average of our native-born citizens, but also all those who would not actually be a positive gain to the racial stock.

If a given community has been responsible for the development of inadequate individuals—either persons who were born socially inadequate or those who have become so through some agency of the community—then that community should be responsible for the care and maintenance of those individuals. This is equally true whether the community is a county, a state or a nation. An individual who has migrated from one locality to another, where he has shown himself to be socially inadequate, should be returned to the community which produced him unless his social inadequacy is definitely shown to result from his having been in the second community. There is a growing tendency for states to return the socially misfit to the state of their origin to save themselves the trouble and expense of their support. The United States should carry out the same idea in the deportation of individuals who have proved themselves unable to fit into American surroundings. It would be entirely reasonable to return to their country of origin all aliens who are now on relief rolls in this country. The law specifies that all aliens who are public charges shall be deportable, but immigration authorities have not interpreted this as including aliens who are on relief but merely those who are in institutions.

COMMON STANDARDS FOR IMMIGRATION, NATURALIZATION AND NON-DEPORTABILITY

If a foreigner is allowed to enter this country, he at once becomes a potential breeding stock for future Americans, whether or not he stays permanently and whether or not he is naturalized. Hence, it is foolish to allow any immigrant to enter this country who would not be considered worthy of naturalization. The simplest way to do this would be to increase the stringency of the examinations given by the consular officials of the United States in foreign cities before they grant immigration visas. The burden of proof should be placed entirely on the would-be immigrant to show that he is of such a family stock that his addition to the population of the United States would be to our advantage. One of the most essential things to do is to develop a character test along lines similar to the intelligence tests that are now used. It is just as important to have our immigrants possess what we consider the proper character and personality as to have them of the right intelligence. We have considered ourselves a haven for the poor and oppressed, and have opened our arms to all sorts of refugees. If a refugee is of sufficiently high caliber to be received into this country anyway, we should take him. If he would otherwise be rejected, the mere fact of his being persecuted at home should not out-weigh his negative qualities. We should only allow citizens of a given race or nationality to enter this country if there were no large group of unabsorbed nationals of that country still in the United States. As soon as any group begins to consider itself a distinct entity, on the basis of religion, language, nationality or race, further immigration of that group should be stopped until such time as the members of the group already in this country should be absorbed.

An immediate step to be taken is the formation of a uniform code of naturalization standards to be uniformly enforced throughout the country. No one should be naturalized who has any hesitancy about affirming full and unqualified loyalty to the United States, including, specifically, the willingness to bear arms in its defense. There is much alien propaganda carried on in this country, by aliens acting either as agents for their government, or independently. Such acts should be considered in themselves entire justification for the immediate deportation of an alien. It is entirely within the rights of any sovereign nation to denaturalize any naturalized citizen. Such citizenship should be automatically revoked and a person should be deported to the country of his origin, if he has performed any act which would lead to his deportation were he still an alien. The statute of limitations in this respect should and could be changed to allow deportation at any time. Deportation should be based on the following causes: illegal entry, including complicity; conviction of any crime involving six months or more imprisonment or a fine of $500 or more; practising or profiting from conduct involving moral turpitude; becoming a public charge within 10 years of naturalization; being an alien who is a public charge; advocacy of change of government by force; attempting, while an alien, to participate in any manner in American politics. No alien should be admitted to this country in the first place who does not have a country to which he may be deported.

FOREIGN BORN IN AMERICAN CUSTODIAL INSTITUTIONS

Present laws provide for the deportation of criminal aliens but, in a great many cases, the enforcement of the law is so lax that nothing is done about their deportation. The proportion of aliens in our prisons and institutions generally is lower than the proportion of native Americans. But that was not what we were striving toward in permitting immigration. We have tried to prevent all immigration of foreign criminals. If any such are in our prisons, we should stiffen the enforcement of the law. The proportion of foreign born in the institutions in this country has decreased considerably in the past few years, which is a step in the right direction, but we still have a long way to go.

LOOPHOLES HINDERING ENFORCEMENT OF AMERICAN IMMIGRATION POLICY

Our present laws on immigration are not sufficiently stringent. But, even so, the laws that we have could be enforced more effectively if the enforcing agencies were given more popular support in carrying out their duties. The present moment is an excellent time for making a thorough revision of the immigration and deportation laws with a long-time national policy in mind, for the improvement of the race. The depression has reduced the pressure that otherwise would be applied to prevent our raising the standards. There is now a considerable homeward movement of aliens, due to the lower standard of living in their home countries, enabling them to live comfortably there on what would be insufficient here, and to the fact that at home they might be able to live on the land instead of being obliged to live in the cities with their high cost of living as is generally the case with aliens in this country.

The United States Government has so many problems facing it which are of such great immediate importance, from both the political and the economic points of view, that it has very definitely slighted the important, although not so immediately pressing, problem of immigration control. An important step toward the stabilization of American economic conditions would be made by the refusal to admit more immigrants than could be absorbed. The action of President Hoover, in 1930, in instructing consuls to withhold visas from would-be immigrants unless they could demonstrate that they would not become public charges, was a step in the right direction. The recent union of the immigration and deportation services into a single United States Immigration Service is a very promising move. It would be advisable to reduce the executive discretion as regards permission to weaken the enforcement of the law in certain cases, so as to reduce the political pressure which is often brought against the executive. This is particularly true with regard to the question of making special cases of certain immigrants where hardship is asserted. The policy of the United States has been very liberal in this regard. It is certain that there were many cases of hardship after the passage of the original immigration laws in 1924, but sufficient time has now passed for all cases of hardship to have been remedied. This loophole should be removed by no longer permitting exceptions to be made on the grounds of hardship.

The lack of cooperation between the states and the nation was stressed. There is an increasing cooperation along this line. New York State has the greatest alien problem. The difficulties are increased since there is no requirement for Federal control over and check of the movements of aliens within the United States. It is hoped that some such check and supervision will be introduced in the near future.

In the past, Congress has often legislated to allow extra-quota immigration of certain groups. This should not be continued. There is always a tendency for aliens and recently naturalized citizens to desire more of their particular group to be admitted to this country. The immigration requirements of the country, however, should be determined not by aliens or recently naturalized aliens but by the native-born citizenry of the nation, and no outside influences whatever should be tolerated.

Naturalization is not a right granted to everyone who comes to our shores, but a privilege conferred on those who have shown themselves to be worthy of it. This is a distinction that should constantly be kept in mind. Any privilege granted may, of course, be withdrawn for cause at any time. This subject is covered by the Constitution which makes the Government sole arbiter in the question of naturalization (and hence, by implication, of denaturalization) of aliens. It is entirely reasonable, as well as constitutional, to cancel citizenship of a naturalized citizen if he has been convicted of any crime involving felony or moral turpitude, since it indicates that it was a mistake to admit him in the first place. This cancellation is not a second punishment for a single offense, since the judicial system has long since maintained that, if ordered as integral parts, the same sentence may include, in various combinations, fine, imprisonment, revocation of citizenship or deportation. Any action which would bring about the deportation of an alien, should cause the revocation of citizenship and deportation of a naturalized citizen.

There are not, at present, sufficiently strong Coast and Border Guards (particularly the latter) to make it truly difficult for aliens to enter this country illegally. Strengthening these guards would be a simple and readily feasible method for reducing the number of aliens who illegally gain entry to this country at relatively little trouble and expense. The present situation is especially unfortunate in that immigration officials are not allowed to detain persons on suspicion of being illegally within the limits of the United States. The burden of proof should lie on the alien, to show that he legally belongs here.

All foreign born persons in the United States should be registered with their descriptions, photographs and finger prints. This should be extended to the whole population, but the foreign born would make an obvious point at which to start. A recent order was issued by the United States Department of Labor (Feb. 23, 1933) requiring the finger-printing of all aliens admitted for permanent residence. This order, unfortunately, was revoked within less than two months for no stated reason.

RECOMMENDATIONS

The Congress of the United States should definitely declare what the immigration policy of the United States is, in particular, including the limitation of future immigration to such persons as are readily assimilable in numbers and quality by the predominating white stocks of the United States, and who must possess family stock qualities which are substantially superior, physically, intellectually and morally, to the current average of native breeding stock.

More specifically, it was recommended that a common standard be set up for admissibility and naturalization of aliens, and their non-deportability; that no immigrant be admitted unless he is white, possessor of qualities which would be an asset to the people of the United States, and is a member of a family-stock which would produce offspring calculated to be of advantage to the United States; that a white person be defined for this purpose as one all of whose ancestors were members of the white race; that every nation in the world, without exception, be placed on a quota basis; that the Immigration Service should keep records not only of the country of origin, but also of the race-descent of each immigrant; that the personality or character test be added to physical and mental tests, and that consular agents should give preference in accordance with the results of these tests; that the present immigration quota be reduced by 60 per cent; that no immigrant be admitted whose wife, husband, or minor child would be inadmissible; that no immigrant be admitted who puts any loyalty higher than loyalty to the United States Government; that the President be authorized to deport any alien whose presence he considers detrimental to the public welfare; that naturalization standards be made uniform throughout the United States; that any naturalized citizen of the United States who is sentenced to fine or imprisonment, which would require the deportation of an alien, shall automatically have his citizenship cancelled, and shall be deported as an undesirable alien; that any alien who has become a public charge, including those who are public charges due to economic inadequacy, be deported; that in all respects the statute of limitations be abolished, in so far as it deals with questions bearing on immigration control; that any alien who engages in political propaganda or activity of any sort be deported; that the Commissioner of Immigration and Naturalization be the judge as to the deportability of aliens, although appeal should be allowed to the courts; that, when questioned, the burden of proof as to the right to remain in the United States should lie with the alien; that each warrant for deportation automatically should impose on the deported alien a fine (if collectible) equivalent to deportation costs; that all foreign-born persons be required to register, the regitser to include adequate records of race, birth, background and immigration, residence, occupation and behaviour in the United States, and identification, including finger prints; that a Border Guard be established on the basis of the present Border Patrol, coordinated with the Coast Guard for the purpose of enforcing the immigration laws; that these guards have the power to hold for questioning any suspicious persons found near the borders; and that the Federal Authorities take greater initiative in the deportation of deportable aliens, and keep in close touch with the various penal and other institutions, for the removal of undesirable aliens as soon as their undesirability becomes known.

POPULATION STATISTICS

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POPULATION GROWTH

When the first census of the United States was taken in 1790, the population was not quite 4,000,000. Each subsequent decennial census up to 1860 showed an increase of about one-third over the preceding one; from 1860 to 1910 the decennial increase was around 20 or 25 per cent; and for the last two decades the increase has been only 15 or 16 per cent. The population in 1930 was, nevertheless, nearly 123,000,000, or 31 times the population in 1790. The data from the 15 censuses are given in the table opposite.

POPULATION OF THE UNITED STATES: 1790 TO 1930

Census year	Population	Increase over preceding census	
		Number	Per cent
1930......	122,775,046	17,064,426	16.1
1920......	105,710,620	13,738,354	14.9
1910......	91,972,266	15,977,691	21.0
1900......	75,994,575	13,046,861	20.7
1890......	62,947,714	12,791,931	25.5
1880......	50,155,783	10,337,334	26.0
1870......	*39,818,449	8,375,128	26.6
1860......	31,443,321	8,251,445	35.6
1850......	23,191,876	6,122,423	35.9
1840......	17,069,453	4,203,433	32.7
1830......	12,866,020	3,227,567	33.5
1820......	9,638,453	2,398,572	33.1
1810......	7,239,881	1,931,398	36.4
1800......	5,308,483	1,379,269	35.1
1790......	3,929,214	....	....

* Revised figure.

The results of the 1930 census, showing an absolute increase for the decade greater than for any previous 10-year period, might have been taken as an indication that population growth was to continue at a fairly rapid rate in spite of prophesies to the contrary which were already being made at that time. It must be considered, however, that the average annual net immigration between 1920 and 1930 was around 300,000, while since 1930 the excess of departures over arrivals has been about 50,000 per year, that is, net immigration has been a minus quantity. Further, the birth rate, which had fallen from 24.3 in 1921 to 18.9 in 1930, has continued its downward course since that date, standing in 1934 at 17.1. The net result of these changes has been to reduce the average annual increase in population to less than six-tenths of the 1920-30 average. On the basis of the data on births, deaths, immigration, and emigration, the population of continental United States on July 1, 1935, has been estimated at 127,521,000.

On the basis of probable trends in the birth rate and death rate and assuming no net immigration from foreign countries, the population of the United States has been estimated or forcast for several decades in the future, as follows:* For 1940, 132,000,000; for 1950, 139,000,000; and for 1960, 143,000,000. Shortly after 1960, under these assumed conditions, the population will reach its maximum, and a slow decline will begin.

The most significant data on births and deaths which need to be considered in any study of probable future trends in population are presented in the following table, which gives for each year from 1920 to 1934 the number of births and deaths reported in the registration area, with estimates for the United States as a whole; the annual rates per thousand of the population; and a 3-year moving average rate, which indicates the changes with less variation on account of fortuitous conditions than the single-year rates. Estimated totals for the United States are also given for the years from 1920 up to the time (1933) when all states were included in the registration area, and in the final column the excess of births over deaths, or the actual amount of the natural increase of the population.

BIRTHS AND DEATHS IN THE REGISTRATION AREA: 1920 TO 1934

(The birth registration area included 59.8 per cent of the total population of the country in 1920 and the death registration area 82.2 per cent; in 1933 both areas had been extended to include the entire country.)

Year	Births			Deaths			Estimated totals for the United States* (thousands)		
		Rate per 1,000 of population			Rate per 1,000 of pupulation				
	Number	Annual	3-year moving average	Number	Annual	3-year moving average	Births	Deaths	Excess of births over deaths
1934......	2,167,636	17.1	....	1,396,903	11.0	....	2,168	1,397	771
1933......	2,081,232	16.6	17.1	1,342,106	10.7	10.9	2,081	1,342	739
1932......	2,074,042	17.4	17.3	1,308,529	10.9	10.9	2,178	1,360	818
1931......	2,112,760	18.0	18.1	1,322,589	11.1	11.1	2,232	1,374	858
1930......	2,203,958	18.9	18.6	1,343,358	11.3	11.4	2,328	1,396	932
1929......	2,169,920	18.9	19.2	1,386,363	11.9	11.8	2,291	1,448	843
1928......	2,233,149	19.7	19.7	1,378,675	12.1	11.8	2,368	1,446	922
1927......	2,137,836	20.6	20.3	1,236,949	11.4	11.9	2,440	1,352	1,088
1926......	1,856,068	20.6	20.9	1,285,927	12.2	11.8	2,412	1,428	984
1925......	1,878,880	21.4	21.6	1,219,019	11.8	12.0	2,467	1,360	1,107
1924......	1,930,614	22.6	22.2	1,173,990	11.8	12.0	2,534	1,328	1,206
1923......	1,792,646	22.4	22.5	1,193,017	12.3	12.0	2,478	1,360	1,118
1922......	1,774,911	22.5	23.1	1,101,863	11.8	11.9	2,456	1,290	1,166
1921......	1,714,261	24.3	23.5	1,032,009	11.6	12.2	2,622	1,253	1,369
1920......	1,508,874	23.7	....	1,142,558	13.1	....	2,522	1,389	1,133

* Based on the assumption that the rates per 1,000 are the same as for the Registration Area.

CHANGES IN CHARACTER OF POPULATION

In addition to the slowing down of the rate of increase, there will be important changes in the character of the population, notably an increase in the proportion of elderly persons and a decline in the proportion of children. This change in the age composition of our people has been going on for many decades. The number of children under five, for example, formed 12.2 per cent of the total population in 1890, and only 9.3 per cent in 1930. On the other hand, persons 70 years old and over formed 2.1 per cent of the population in 1890, and 3.1, or nearly half as much again, in 1930. The changes throughout the series of age periods are indicated by the percentages shown in the following table:

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* Forecast based on computations made by W. S. Thompson and P. K. Whelpton.

PER CENT DISTRIBUTION OF POPULATION BY AGE: 1890 TO 1930

Age (years)	1930	1920	1910	1900	1890
All ages....	100.0	100.0	100.0	100.0	100.0
Under 5......	9.3	10.9	11.6	12.1	12.2
5 to 9......	10.3	10.8	10.6	11.7	12.1
10 to 14......	9.8	10.1	9.9	10.6	11.2
15 to 19......	9.4	8.9	9.9	9.9	10.5
20 to 24......	8.9	8.8	9.8	9.7	9.9
25 to 29......	8.0	8.6	8.9	8.6	8.3
30 to 34......	7.4	7.6	7.6	7.3	7.3
35 to 39......	7.5	7.4	7.0	6.5	6.2
40 to 44......	6.5	6.0	5.7	5.6	5.1
45 to 49......	5.7	5.5	4.9	4.5	4.4
50 to 54......	4.9	4.5	4.2	3.9	3.7
55 to 59......	3.8	3.4	3.0	2.9	2.7
60 to 64......	3.1	2.8	2.5	2.4	2.3
65 to 69......	2.3	2.0	1.8	1.7	1.6
70 to 74......	1.6	1.3	1.2	1.2	1.1
75 to 79......	0.9	0.8	0.7	0.7	0.6
80 to 84......	0.4	0.4	0.3	0.3	0.3
85 and over...	0.2	0.2	0.2	0.2	0.2
Unknown.....	0.1	0.1	0.2	0.3	0.3

Other population characteristics in which we may expect changes in the next few years are a rather rapid disappearance of the problems incidental to the absorption of a large number of European immigrants and the practical disappearance of illiteracy as a serious problem in any part of the country, for even now the percentage of illiteracy in the younger age groups is nowhere very high.

OLD-AGE PENSIONERS

Of particular significance in these days of widespread and intense interest in old-age pensions is the rapid increase in the number of old persons, that is, of persons who would be eligible for pensions on the basis of attained age. The number of such persons can be computed with a satisfactory degree of accuracy for years subsequent to the census, and even for two or three decades into the future, by applying available survival rates to the numbers now in the various age groups in middle life. Estimates of the population 65 years old and over obtained by this process are as follows: For 1940, 8,400,000, or about 6.4 per cent of the population; for 1950, 10,900,000, or about 7.8 per cent; and for 1960, 13,800,000, or about 9.7 per cent. More detailed figures for cumulative age groups from recent censuses, with estimates for 1935, are presented in the following table:

POPULATION 45 YEARS OLD AND OVER IN CUMULATIVE AGE GROUPS: 1900 TO 1935

Age (years)	Number of persons (thousands)					Per cent of total				
	1935[1]	1930	1920	1910	1900	1935	1930	1920	1910	1900
All ages[2]....	127,400	122,681	105,562	91,803	75,794	100.0	100.0	100.0	100.0	100.0
45 and over...	31,488	28,049	21,963	17,374	13,480	24.7	22.9	20.8	18.9	17.8
50 and over...	23,843	21,007	16,200	12,904	10,026	18.7	17.1	15.3	14.1	13.2
55 and over...	17,209	15,031	11,465	9,004	7,083	13.5	12.3	10.9	9.8	9.3
60 and over...	11,710	10,385	7,916	6,217	4,872	9.2	8.5	7.5	6.8	6.4
65 and over...	7,578	6,634	4,933	3,950	3,080	5.9	5.4	4.7	4.3	4.1
70 and over...	4,414	3,683	2,865	2,270	1,778	3.5	3.1	2.7	2.5	2.3

[1] Estimate for April 1, 1935.
[2] Omitting persons with age not reported.

Some calculations of the cost of universal old-age pensions, on the basis of the population estimates just presented, may be of interest. For example, to pay the moderate pension of $30 per month to all persons 65 years of age and over in 1935 would cost $2,728,100,000, or more than the entire receipts of the Federal Government from income and profits taxes in the prosperous year 1929; while to pay a pension of $200 per month to all persons 60 years old and over would cost more than $28,000,000,000, or well over half the entire national income as estimated for 1934, and would leave less than $200 per annum ($17 per month) for all of the population under 60 years of age—those by whose labors the entire income would be produced.

URBAN-RURAL POPULATION

Of the population returned in the 1930 census, 68,954,823, or 56.2 per cent, were living in urban territory, that is, in cities and other incorporated places having 2,500 inhabitants. The percentage of the population urban in 1920 was 51.4; in 1910, 45.8; in 1900, 40.0; in 1890, 35.4, and in 1880, 28.6.

The rural population in 1930, that is, the population living outside urban territory as defined above, was 53,820,223, comprising 30,157,513 persons living on farms in rural territory (rural-farm population) and 23,662,710 not living on farms (rural-nonfarm or village population).

The urban-rural classification on the 2,500 basis is not available for years earlier than 1880. There is available, however, as an index of the long continued increase in the relative importance of the urban population of our country, a tabulation showing the population living in places of 8,000 or more for the whole range of our censuses from 1790 to 1930. These figures are as follows:

POPULATION IN PLACES OF 8,000 INHABITANTS OR MORE: 1790 TO 1930

Census year	Total population	Places of 8,000 inhabitants or more		
		Population	Number of places	Per cent of total
1930	122,775,046	60,333,452	1,208	49.1
1920	105,710,620	46,307,640	924	43.8
1910	91,972,266	35,570,334	768	38.7
1900	75,994,575	25,018,335	547	32.9
1890	62,947,714	18,244,239	445	29.0
1880	50,155,783	11,365,698	285	22.7
1870	38,558,371	8,071,875	226	20.9
1860	31,443,321	5,072,256	141	16.1
1850	23,191,876	2,897,586	85	12.5
1840	17,069,453	1,453,994	44	8.5
1830	12,866,020	864,509	26	6.7
1820	9,638,453	475,135	13	4.9
1810	7,239,881	356,920	11	4.9
1800	5,308,483	210,873	6	4.0
1790	3,929,214	131,472	6	3.3

FAMILIES

The term "family," as it has been used in the Census Reports for several decades, signifies a group of persons, whether related by blood or not, who live together as one household, usually sharing the same table. While most of the 1930 tabulations have been made for private families alone, excluding those groups not made up of related persons, it is necessary for comparative purposes to use the broader definition. There were 29,904,663 private families returned in 1930, and 75,178 quasi-family groups (mainly institutions, hotels, and lodging houses) which would have been included in the count of families under the rules employed in 1920 and earlier censuses. This makes a total of 29,979,841, which may be compared with 24,351,676 families or households reported in 1920. The average population per family on this more inclusive basis was 4.1 in 1930, 4.3 in 1920, 4.5 in 1910, 4.7 in 1900, and 4.9

in 1890. There has thus been a decline in the average population per family amounting to two-tenths of a person per decade since 1890.

A home is counted as owned if it is owned wholly or in part by any related member of the family. Conversely, a home is counted as rented if it is not owned by any member of the family, including those cases where no specific cash rental is paid, as where a man receives the use of a home as part of his wages or salary. Families living in rented homes are classified as tenant families. The number and percentage of tenant families in certain significant groups are shown in the following table:

FAMILIES IN URBAN GROUPS AND RURAL AREAS, BY TENURE: 1930

Area	All families (thousands)	Tenant families	
		Number (thousands)	Per cent of total
Total	29,905	15,320	51.2
Urban	17,373	9,681	55.7
Places of—			
1,000,000 or more	3,763	2,582	68.6
500,000 to 1,000,000	1,426	871	61.0
250,000 to 500,000	2,062	1,195	58.0
100,000 to 250,000	1,895	1,065	56.2
50,000 to 100,000	1,625	890	54.8
25,000 to 50,000	1,617	815	50.4
10,000 to 25,000	2,282	1,066	46.7
5,000 to 10,000	1,492	668	44.8
2,500 to 5,000	1,210	529	43.7
Rural	12,532	5,638	45.0
Farm	6,605	2,953	44.7
Nonfarm	5,928	2,686	45.3

AGE AT MARRIAGE

It is often assumed that, by reason of the greater economic requirements for the establishment of a home and the longer period of schooling now considered desirable, the average age at marriage for American young people has been increasing. The census figures indicate, however, that this is not the case, and that actually the movement for the last 40 years has been rather towards a lower age at marriage. An absolutely accurate average or median age at marriage could be computed only from a tabulation of the actual ages of bride and groom in all first marriages in a given period. In the earlier years of age, however, nearly all marriages are first marriages, and the percentage of persons who are or have been married increases rapidly with every added year of age. In these ages also there are relatively few deaths of married persons. If we can make a reasonable assumption, therefore, with respect to the maximum percentage of persons who ever married, we may compute from the available data on marital condition by single years of age the approximate median age at first marriage. This age would be the age at which the percentage married, widowed, or divorced was exactly one-half the assumed maximum. In the following table are presented median ages at first marriage, in the computation of which the percentage of the population married, widowed, or divorced which is shown for the age period 50 to 54 years has been assumed to be the maximum. This period is selected rather than a later one because in the latter ages the population groups are being rapidly depleted by death and thus lose their representative character.

MEDIAN AGE AT MARRIAGE: 1910-1930

Class or area and sex	1930	1920	1910
MALE			
All classes	24.8	25.1	25.7
Native white	24.8	25.2	25.7
Foreign-born white	26.7	26.3	26.9
Negro	22.9	23.0	23.6
Urban	25.1	25.6	....
Rural	24.3	24.6	....
Rural-farm	24.7	....	....
Rural-nonfarm	23.9	....	....
FEMALE			
All classes	21.8	21.7	22.1
Native white	21.9	22.0	22.4
Foreign-born white	23.0	21.3	21.9
Negro	20.3	20.2	20.6
Urban	22.3	22.3	....
Rural	21.0	21.1	....
Rural-farm	21.3	....	....
Rural-nonfarm	20.7	....	....

GAINFUL WORKERS

Persons 10 years old and over who usually work at a gainful occupation, even though temporarily unemployed at the time of the census, are counted as gainful workers. In the Census Reports these gainful workers are classified both by occupation and by industry in which employed. There is demand, however, for a briefer classification which would indicate the social or economic status of the workers and which would be based in part on the degree of skill required by the various occupations. Such a classification, devised by Dr. A. M. Edwards, on the basis of occupation, is presented in the table which follows. In a classification as broad as this, the assignment of individuals or of occupation groups to one or another of the general classes must involve a considerable degree of approximation. The classification has been widely used, however, and is presented as a real contribution to the available statistics of our workers.

STATISTICAL SUMMARIES

Population data under a number of other important classifications, such as marital condition, illiteracy, country of origin, mother tongue, and value or rental of home, are contained in the articles on population in THE AMERICAN YEAR BOOK for 1932 (pages 523 to 531), for 1933 (pages 577 to 583), and for 1934 (pages

GAINFUL WORKERS IN SOCIAL-ECONOMIC GROUPS: 1930

Census year and group	Total		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
All occupations	48,829,920	100.0	38,077,804	100.0	10,752,116	100.0
1. Professional persons	2,945,797	6.0	1,497,934	3.9	1,447,863	13.5
2. Proprietors, managers and officials	9,665,540	19.8	9,159,896	24.1	505,644	4.7
a. Farmers (owners and tenants)	6,012,012	12.3	5,749,367	15.1	262,645	2.4
b. Wholesale and retail dealers	1,787,047	3.7	1,675,193	4.4	111,854	1.0
c. Other proprietors, managers, and officials	1,866,481	3.8	1,735,336	4.6	131,145	1.2
3. Clerks and kindred workers	7,949,455	16.3	4,877,235	12.8	3,072,220	28.6
4. Skilled workers and foremen	6,282,687	12.9	6,201,542	16.3	81,145	0.8
5. Semiskilled workers	7,977,572	16.3	5,448,158	14.3	2,529,414	23.5
a. Semiskilled workers in manufacturing	4,557,993	9.3	2,881,022	7.6	1,676,971	15.6
b. Other semiskilled workers	3,419,579	7.0	2,567,136	6.7	852,443	7.9
6. Unskilled workers	14,008,869	28.7	10,893,039	28.6	3,115,830	29.0
a. Farm laborers	4,392,764	9.0	3,746,433	9.8	646,331	6.0
b. Factory and building construction laborers	3,374,143	6.9	3,248,622	8.5	125,521	1.2
c. Other laborers	2,903,065	5.9	2,871,744	7.5	31,321	0.3
d. Servant classes	3,338,897	6.8	1,026,240	2.7	2,312,657	21.5

548 to 554). The most compact official publication providing a fairly complete summary of the population statistics is the *Abstract of the Fifteenth Census.* A briefer set of summary tables is contained in the *Statistical Abstract,* which may be available in some libraries not having the *Census Abstract.* A very significant tabulation of the data for gainful workers, classified first by industry and under each industry by occupation, is contained in Chapter 7 of Volume V of the *Fifteenth Census Reports on Occupations.* The title of this chapter, which is published as a separate bulletin, is "Gainful Workers by Industry and Occupation."

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Colonization Society, 516 Colorado Bldg., Washington, D. C.
Committee of One Thousand, 25 E. 26th St., New York City.
Naturalization Aid League, 175 E. Broadway, New York City.
North American Civic League for Immigrants, 287 Fourth Ave., New York City.
Scripps Foundation for Research in Population Problems, Miami University, Oxford, O.

RACES

American Ethnological Society, American Museum of Natural History, New York City.
American Jewish Committee, 171 Madison Ave., New York City.
Ancient Order of Hibernians, 937 W. 54th Place, Chicago, Ill.
Bavarian National Assn., of N. A., 758 Broadway, Buffalo, N. Y.
Centro Hispano-Americano, 353 W. 17th St., New York City.
Centro Vasco Americano Society, 48½ Cherry St., New York City.
English-Speaking Union of the U. S., 19 W. 44th St., New York City.
Federation De L'Alliance Francaise, 32 Nassau St., New York City.
Federation of Polish Jews In America, 225 W. 34th Street, New York City.
Foreign Language Publishers' Assn. of the U. S., Inc., 110 E. 42nd St., New York City.
Hebrew Sheltering and Immigrant Aid Society of America, 425 Lafayette St., New York City.
Holland Society of N. Y., 90 West Street, New York City.
Huguenot Society of America, 2 W. 45th St., New York City.
Hungarian Society of N. Y., 1440 Broadway, New York City.
Indian Rights Assn., 995 Drexel Building, Philadelphia, Pa.
Japanese Assn., Inc., 1819 Broadway, New York City.
Jewish Council of Greater N. Y., 103 Park Ave., New York City.
Jewish National Workers' Alliance of America, 404 Fourth Ave., New York City.
Lake Mohonk Indian Conference, Mohonk Lake, N. Y.
Lithuanian Alliance of America, 307 W. 30th St., New York City.
National Assn. for Advancement of Colored People, 69 Fifth Ave., New York City.
Netherland American Foundation, 274 Madison Ave., New York City.
Ordine Fieli D'Italia in America, 225 Lafayette St., New York City.
Polish Federation of New York City, Inc., 705 Courtlandt Ave., New York City.
Polish National Alliance, 735 N. Water Street, Milwaukee, Wis.
Russian National Society, 5 Columbus Circle, New York City.
Sons of Italy, 231 E. 14th St., New York City.
United Roumanian Jews of America, Inc., 799 Broadway, New York City.
Young Judea, Inc., 111 Fifth Ave., New York City.
Young Men's Hebrew Assn., 71 W. 47th St., New York City.
Young Women's Hebrew Assn., 71 W. 47th Street, New York City.
Zionist Organization of America, 111 Fifth Ave., New York City.

DIVISION XV

SOCIAL PROBLEMS AND CONDITIONS

PUBLIC AND PRIVATE SOCIAL WORK

BY JOANNA C. COLCORD AND RUSSELL H. KURTZ

RUSSELL SAGE FOUNDATION

SCOPE OF DISCUSSION

Articles in the 1934 edition of THE AMERICAN YEAR BOOK (pp. 564-574) sketched in a background for discussion of the manifold forms taken by public and private social endeavor in this country. The present article will, therefore, touch only upon such outstanding developments in these several fields as may have occurred during the past year. No precise line can be drawn delimiting areas of social work which are entirely public or entirely private in auspices. A single exception may be made in the case of community chests which number only privately supported agencies in their membership. For reasons of convenience, public and private family social work will be separately discussed. Under the other topics discussed below, public and private efforts will be jointly treated.

TRAINING FOR SOCIAL WORK

Schools which meet the membership standards of the American Association of Schools of Social Work, (1417 East River Road, Minneapolis,) have increased during the past year from 27 to 30 in number, two-thirds in private educational institutions, the remainder in state universities. At the beginning of the academic year, 6,600 students were enrolled in these schools. A feature of the past two years has been the large number of new recruits to the staffs of Federal and state emergency relief bodies who have been sent on scholarship to take training for short periods in the schools. During the first half of the year, 521 students received such training; during the last half, 366.

PROFESSIONAL ORGANIZATION

The American Association of Social Workers, (130 East 22nd Street, New York City), with 70 local chapters, now comprises about 9,500 members, a gain of nearly 10 per cent over the previous year. Its work, other than that of a routine nature, is prosecuted through a series of committees, comprised in three divisions, on Personnel Standards, Employment Practices, and Government and Social Work.

In general, the situation of social workers with respect to employment in their profession is, at the moment of writing, chaotic. The Federal Emergency Relief program, as described below, is being discontinued with resultant release of personnel, only a small proportion of whom, however, have been trained social workers. Among those recruited from other professions as relief workers are many who are nevertheless anxious to find a permanent foothold in the profession. Some older workers, with long experience but no training, who have always considered themselves professional social workers, are finding that in the present deflation of public personnel, their services are no longer in demand. The fact is emerging with some clarity, that the candidates who have the best chance at such new positions as may open up in social work are the graduates of the schools of social work, particularly those who have graduated within the last 10 years.

An outstanding feature of recent depression years has been the increase in attendance at country-wide and regional conferences on various phases of social work. The National Conference of Social Work (82 North High Street, Columbus, Ohio) met in 1929 with 3,400 in attendance; in 1930 there were 5,400. The 1935 session was held outside the United States (in Montreal) but was attended by at least 4,500 persons. State conferences have generally also shown a noticeable increase in attendance. This phenomenon doubtless reflects the presence in the relief program, previously mentioned, of large numbers of newcomers into social work, and their eager desire, in spite of overwork and low salaries, to go wherever they believe they can listen to helpful and educational discussions of the problems with which they are attempting to deal.

CENTRAL FINANCING AND PLANNING OF PRIVATE SOCIAL WORK

By far the greater part of the funds employed in the work of private social agencies are secured city by city, through joint financial campaigns conducted annually by such agencies as community chests. A feature of general campaigns during the past few years has been the annual Mobilization for Human Needs conducted at Washington by the national organization, Community Chests and Councils, Inc., (155 East 44th Street, New York City.) This general publicity campaign in support of local fund-raising comes to the attention of every citizen through radio addresses, posters, magazine articles and advertisements, and through the daily press. Central financing is largely an urban development, and only 12 cities of over 100,000 are without a community chest. Late comers into the ranks of chest cities are Chicago in 1934 and Boston in 1935. New York City is still without a central body of this sort, although four large groups of agencies—Catholic, Jewish, non-sectarian family welfare agencies and hospitals—each make a joint appeal to the public at separate times during the year. Chests known to be in operation in 1935 numbered 417, of which 252 were members of the national organization. Contributions were secured amounting to about $68,500,000. Results of campaigns in progress as this is being written show about a five per cent increase over last year's figures.

Since the relief of physical distress has become so largely a function of public agencies, the relief appeal is being less and less stressed in community fund publicity which instead sets forth the need for services which public relief agencies cannot give and which the private agencies must be equipped to render, in such fields as preventive health work, recreation and informal education, child care and the prevention of delinquency, the upbuilding of family solidarity and morale, and the like. It is the firm intention of private social work, as far as may be judged from the utterances of its spokesmen, never to resume the large-scale administration of material relief, and to insist that this must remain the permanent responsibility of the several divisions of government. Councils of Social Agencies, frequently closely associated with community chests, which carry on the functions of clearing-house and stimulator of cooperative agency planning, exist in more than 80 cities. Unlike chests, public equally with private agencies are embraced in the council membership.

PRIVATE FAMILY SOCIAL WORK

The shift of the relief function from private to public auspices has been accompanied by marked changes in the objectives and methods of private family agencies. During 1934, some half-dozen agencies in smaller communities, accustomed to appeal for support on the relief platform alone, have closed their doors or been merged with the existing public relief agency. On the other hand, the more forward looking public agencies are themselves calling for the establishment within their territory of private family agencies where none exists, feeling the need of some agency which will undertake the long, slow process of rebuilding family morale in so-called ''problem cases'' with which the public agency staffs are not yet adequately equipped to deal; and it is significant that a dozen or more private family agencies were either newly-organized during 1934 or reorganized and revived from a dormant state. Prominent in the latter group were societies in St. Paul and Toledo.

The stronger family agencies, in relinquishing to a large extent the relief-giving function, have been able so to build up the skills of their staff in dealing with other than financial ills that beset the modern American family, that they can now serve new needs and new groups in their communities, and secure continued support on the basis of these functions which they are able to carry out even better than when they were forced to function in the main as relief-giving agencies. In order better to express their new functions and objectives, 13 such agencies changed their names during the past year from such non-descriptive titles as Associated Charities, to Family Welfare Society, Institute of Family Service, Family Consultation Bureau, and similar terms. The Family Welfare Association of America, (130 East 22nd Street, New York City,) reports for 1935 a total membership of 250 such agencies, 211 of which were privately supported, the remainder being either combinations of public and private administration, or completely tax-supported departments of public welfare. In 1934, these private family agencies gave direct service to some 226,000 families, their total expenditures being some $20,000,000.

PUBLIC WELFARE AND RELIEF

Public social work, by its broadest definition, includes all social work done under governmental auspices, whether in the field of dependency, delinquency, health, recreation, education, or elsewhere. A less inclusive term ''public welfare'' is commonly used to denote those activities which government undertakes in the interests of the more insecure or socially-insufficient members of the community. Under this heading fall state and local governmental provisions for general relief; special aid through pensions and allowances; institutional care, and frequently, public recreation, supervision of correctional institutions, and services in the field of child welfare. This section will be devoted solely to the past year's developments in the administration of assistance to the dependent or near-dependent.

FEDERAL LEADERSHIP

The Federal Government in 1933 assumed a dominant position in the provision of emergency relief, as reported in the 1934 edition of THE AMERICAN YEAR BOOK (pp. 571-574.) In January, 1935, however, the intention of the Administration to relinquish this position was made clear by the President when he said ''the Federal Government must and shall quit this business of relief.'' The method proposed was (1) to abandon, during 1935, the system of Federal grants to the states for unemployment relief; (2) to substitute a joint program of Federal public works at ''security wages'' for the ''employables'' and a resumption of local care for the ''unemployables'' in the relief population, and (3) to devise measures of ''social security'' which the Federal Government would support in various ways. Two bills were introduced in Congress early in 1935 to implement these proposals. One, the $4,880,000,000 Emergency Relief Appropriation Act of 1935, passed in April; the other, the Social Security Act, became law in August. It is around these two important pieces of legislation that the major public welfare developments of 1935 revolve.

UNEMPLOYMENT RELIEF

The Emergency Relief Appropriation Act of 1935 was so drafted that Federal grants to the states for ''emergency'' or unemployment relief could be continued until the new Federal works program (see below) got under way. During the first half of the year, such grants were made in the usual manner and in amounts determined by conference between Federal and state officials. Beginning in July, however, the Federal Emergency Relief Administration began to restrict its grants on the assumption that the works program was ready to assume part of the load. States were urged to provide larger funds for the care of "unemployables" and were told to start referring the "employables" to the public employment service for assignment to jobs. An error in timing, however, prevented the completion of this process, as the works authorities were not ready with projects. The result was confusion in state and local relief offices, and there developed a series of crises that were resolved only by repeated supplementary grants from Washington. Under the old relief plan, large numbers of recipients had been on local work relief. Most of the projects on which they worked were closed out during the summer as part of the liquidation procedure, long before the new works program jobs were ready. Rural families were dropped from the relief rolls and failed for several months to receive aid from the Resettlement Administration to which they had been referred. Acceptance of new applications at transient shelters was denied after Sept. 20, and all along the line there was a severe tightening of relief in preparation for the final demobilization of the relief structure. The date of this demobilization was postponed several times, finally being set for Dec. 1, 1935. During this period the amount of relief per family did not fall markedly despite the demoralization of staff, financial uncertainty, and pressure from all sides to bring down relief expenditures.

FEDERAL WORKS PROGRAM

The Relief Act of 1935, popularly known at "the four billion dollar works bill," was considerably altered by Congress before passage in April. In its original form this bill gave the President wide latitude in devising a work program and might, had it carried in that form, have resulted in speedy action toward the objective of substituting work for "the dole." Congressional amendment, however, placed a number of restrictions about the freedom desired by the chief executive: the fund was divided into eight limiting classifications, Senate approval was made obligatory on all major administrative appointments, and authority to experiment with new socio-economic programs was denied. After the revised bill became law, a long delay occurred while the President attempted to reconcile intra-Administration conflicts as to who should direct the program. A Works Progress Administration was set up, with Harry L. Hopkins, Federal Emergency Relief Administrator, at its head, to correlate and expedite the various employment projects sponsored and prosecuted by local, state and Federal governments and agencies. After weeks of difficulty in getting the huge machine in running order, Mr. Hopkins was granted additional authority by the President, becoming in effect the "dictator" of the works program, subject only to the President's orders. But other delays were encountered in the U.S. Comptroller General's office where all project plans were sent to be re-surveyed before funds could be released to put them in operation. A bottle-neck developed here which seriously held up the program until well into the fall.

The original WPA plan called for (1) selection of at least 90 per cent of the workers from the relief rolls, with a total of 3,500,000 persons to be employed; (2) payment of a "security wage" less than the going rates in each community but more than the average relief allowance; (3) classification and assignment of workers by the public employment service, from lists of certified relief cases, and (4) employment of only one worker from each family. Later these requirements were modified to meet various exigencies that arose: (1) a substantial section of the program was exempted from the 90 per cent restriction; (2) the security wage was increased in some communities, in response to various pressures, and hours were reduced in order to maintain union scales; (3) the employment service was "by-passed" in a number of localities, and (4) employment of additional family members was permitted under certain conditions. Furthermore, the objective of 3,500,000 jobs was interpreted to include enrolments in the Civilian Conservation Corps when it became apparent that it could not otherwise be reached. Relief supplementation of the security wage, where it was shown to be inadequate (as in the case of large families) has not been allowed from Federal funds and this has thrown an additional responsibility upon the states and their subdivisions. Only those on relief between May 1 and Nov. 1 have been considered eligible for placement.

STATE AND LOCAL RELIEF

The termination of Federal aid for direct or home relief and the inadequacies of the works program has burdened the states and localities with responsibility for a large "residual" load which includes (1) the so-called "unemployables," (2) all new relief cases applying after November 1, (3) many "employables" eligible to WPA but not placed by that agency, and (4) WPA families who need some relief because their work-relief earnings are inadequate for one reason or another. It is a matter of grave doubt whether the local governments, even with state aid, will be able or willing to make proper provision for these residual cases. To do so they will be obliged to develop their public welfare facilities far beyond anything they had found to be necessary in pre-depression years. Reports from several southern communities in November indicated that such development of resources could not be expected to occur automatically and that neglect and suffering might be expected to result.

SOCIAL SECURITY ACT

It is implicit in the Federal plan that state and local care of "unemployables" be regularized, so far as possible, by so-called pension schemes in which the Federal Government will share through the provision of stimulating grants-in-aid. The Social Security Act recognizes three classifications of this sort—old age assistance, aid to dependent children, and aid to the blind—and authorizes the appropriation of funds to be allotted to states for these purposes. For old age assistance, $49,750,000 is authorized for the current fiscal year; for aid to dependent children (outside of institutions) $24,750,000, and for aid to the needy blind, $3,000,000. In addition to these three relief features, the Act sets up two measures of social insurance: (1) Federal old-age benefits, to be provided from taxes on employers and employes in certain classifications, and payable to participants who, after Jan. 1, 1942, have reached the age of 65 years, and (2) unemployment compensation, to be provided by the states in accordance with principles set forth by the Act, under penalty of a heavy Federal tax on employers for state non-compliance. A third group of provisions relate to maternal and child welfare services, and a fourth to public health. Administration of the relief and insurance features of the Act is vested in a newly-created Federal Social Security Board of three members; of the maternal and child welfare services, in the U.S. Department of Labor; and of the public health features, in the Federal Public Health Service of the Treasury Department. All of these measures await Congressional appropriation of funds to make them effective, although as 1936 opens, the various administrative agencies have begun to lay the groundwork of administrative procedure in anticipation of favorable action by Congress. For the current fiscal year, approximately $100,000,000 is needed to make the Act effective. In succeeding years, larger appropriations are contemplated until the point is reached where the insurance measures become operative and begin to reduce the load somewhat.

STATE WELFARE LEGISLATION

In view of the sweeping re-alignments in public welfare which are resulting from the developments described above, the states have been faced with the necessity of taking action for acceptance of their new responsibilities. Up to Nov. 1, 1935, 45 state legislatures had given consideration, in greater or lesser degree, to these problems. Seven states—New York, Washington, Utah, Massachusetts, Alabama, California, and New Hampshire — passed unemployment compensation laws in anticipation of the passage of the Security Act *; 11 states joined the 29 which had previously provided old age assistance through state-wide pension schemes; and most states modified their state welfare machinery to some extent. Several states, notably Maryland and Washington, completely overhauled their welfare and relief laws, setting up modern administrations in which county welfare units will occupy the key positions and state supervision and participation are to play important roles. Despite these progressive steps, however, much remains to be done, and it is certain that the 1936 sessions of the legislatures of the various states will be given over to much additional welfare legislation.

From the present welter of relief shifts, Federal work plans, the beginnings of social insurance, and the reorganization of public welfare machinery, there is hope that human needs may receive more consideration from government in the future than they have in the past. Today's ''placing of patches upon patches'' seems to be leading to an eventually coordinated system in which Federal, state, and local governments will cooperate, on a permanent basis, in providing the essential elements of security to those in need of such provisions. While the actual administration of a coordinated system of public welfare should rest in the community, a certain measure of financial participation, supervision, and standard-setting on the part of the state and Federal governments, seems essential if adequate care is to be provided. Outmoded welfare procedures, dating from the days of Queen Elizabeth and springing from restrictive concepts as to the causes of need and insufficiency, are gradually being recognized as unsuited to our highly complex age.

VISITING TEACHING

A promising development of the last decade was the introduction of social workers into the public school system to make the connection between school and home in cases of children needing special attention on account of difficulties in scholarship or behavior. These departments, usually the most recent to be established, have been the first to suffer on account of decreased municipal budgets for education. In several large communities the services of visiting teachers have been entirely discontinued or only a few of the staff retained attached to other departments; in others the department has been continued, but personnel greatly reduced. Recently there has been some signs of interest on the part of departments of education in smaller cities toward establishing this type of specialized service.

LEISURE TIME ACTIVITIES

The depression has brought about much coordination within the group of agencies embraced by this title. In 1932, under stimulation from the President's Organization on Unemployment Relief, the National-Education-Recreation Council was formed, and plans worked out for joint field service among the organizations represented, which now number 19. Cooperative surveys of recreation facilities have been made in several cities, and joint recommendations urged in connection with governmental programs such as the Civilian Conservation Corps and the National Youth Administration.

In 1934, the last year for which statistics are obtainable, 2,190 American cities had supervised facilities for noncommercial public recreation, or more than twice as many as had been thus equipped during the preceding year, according to reports of the National Recreation Association. (315 Fourth Avenue, New York City) Expenditures for maintenance were upwards of $40,000,000, of which more than half represented the contribution of the National Relief Administration in giving employment on a work-relief basis to supervisors of recreation.

The enormous recent increase in

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* Prior to 1935, Wisconsin was the only state which had enacted an unemployment compensation law.

such facilities may, therefore, be said to be almost entirely in the public field. Private efforts, as represented by the work of such agencies as settlements, institutional churches, the "Ys", and boys' and girls' clubs generally, have not only diminished actually on account of shrinking resources, but their proportionate share in the activity has lessened because of the greatly augmented public expenditures.

Playground and recreation centers have been the areas of greatest increase. The Emergency Education Program of the Federal Emergency Relief Administration, at the peak in March, 1935, was employing about 45,000 teachers on a work-relief basis to conduct nursery schools and classes in vocational education, elementary instruction to foreigners and illiterates, parental and adult education generally. Music and arts have been represented by the development as work relief of bands, choruses and orchestras, travelling troupes of actors, and art projects to embellish public buildings. Not all municipal functions to provide for leisure time have been so fortunate; public libraries and museums have suffered quite generally from reduced appropriations, and little supplementation of their services by means of work-relief personnel has been found possible.

An unfortunate word—"boondoggling"—coined in the course of an aldermanic investigation of relief in New York City and pounced upon by the newspapers, has had wide and derisive application during the past year, particularly to leisure-time activities for the unemployed. At a time when the constructive use of enforced leisure should have been one of the serious concerns of this nation, it is deplorable that so much public misinformation and mal-education should have been draped about this silly word.

AID TO GERMAN REFUGEES

A new development of the past two years has been the formation in this country of a number of privately supported agencies to secure funds for the assistance of persons suffering from political or racial oppression in Germany. Some of these, which represent the benevolence of American Jewry toward distressed Jews in other countries, have merely increased their resources to take on a greatly augmented task; others have been newly organized with a specific purpose; *e.g.* to provide opportunities to teach in American universities for displaced German scholars of prominence. The German University in Exile, under the New School of Social Research in New York City, as well as other institutions of learning, has absorbed a number of these teachers. Other non-sectarian organizations exist to help refugees trained in specific professions to obtain a new foothold in America or in other lands. The National Coordinating Committee for Aid to Refugees and Emigrants Coming from Germany, (245 Fifth Avenue, New York City) in cooperation with the High Commission established by the League of Nations on the same problem, acts as a clearing-house for requests for such aid and for the responses planned by American agencies.[1]

MENTAL HYGIENE [2]

Drug Addiction.—A notable event in 1935 was the opening in May of the first Narcotic Farm by the United States Public Health Service at Lexington, Kentucky. This unique institution, designed to care for more than half of the approximately 1,800 narcotic-drug addicts in Federal prisons, represents a new departure in the government's policy toward the drug-addiction problem. It bears a functional relationship to policies of law enforcement, problems in penal and correctional procedure, safeguarding the uses of narcotic drugs in medical practice, and the quest for more accurate and fundamental knowledge concerning the nature of drug addiction. It is to be a treatment and research center, with an educational, industrial and vocational rehabilitation program, and with certain custodial features superimposed. A second institution will be established later at Fort Worth, Texas, for the treatment of the more tractable types of drug addicts.

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[1] For fuller discussion of social problems and social remedies, reference should be made to the *Social Work Year Book*, 1935 edition, published by the Russell Sage Foundation. (130 East 22nd Street, New York City.)

[2] Material contributed by Paul O. Komora of the National Committee for Mental Hygiene.

Child Psychiatry.—During the past year there has been unabated progress in the development of child psychiatry. Child guidance clinics have increased in number. Three new units have been provided for the New York City public schools. The out-patient clinic at the Michael Reese Dispensary in Chicago for both adults and children has been considerably enlarged. The clinic in Dayton, Ohio, previously functioning 14 hours a week of psychiatric time, has been extended to full time. The extramural travelling clinic of the Trenton State Hospital has been established on a full-time basis, and half-time unit has been set up in Buffalo. In Nashville, a clinic unit has been set up at Vanderbilt University to provide service to three adjacent counties. None of the larger clinics has been discontinued.

Professional Education.—Of collateral interest are certain developments in professional education in mental hygiene to members of the cooperating professions of psychology, social work, education, and other fields employing trained non-medical personnel. Among these developments should be mentioned the activities of the Council for the Clinical Training of Theological Students, which is instructing a selected group of qualified students from recognized theological seminaries in case work with patients in hospitals and clinics, to prepare them for a better understanding of mental maladjustments and related human problems met within pastoral work. Such training under psychiatric direction is now being given in 12 centers, including mental and general hospitals, child guidance clinics, state prison systems, and so on.

In addition to child guidance programs, psychiatric services have been provided to a number of family welfare agencies. The Richmond (Virginia) Family Service Society has established a full-time psychiatric unit in close functional proximity to the existing child guidance clinic. Also, psychiatric services have been increased in pediatric departments, both on a service and staff development basis, and there is distinct evidence of growth in the scope of pediatrics to include more and more responsibility for the psychiatric aspects of that field.

These developments have necessarily produced some changes in the scope and administrative relationships of existing child guidance clinics. There is a tendency toward the division of labor in community organization along technical lines and a consequent centralization of psychiatric services. There has also resulted a shortage of personnel both as to psychiatrists and psychiatric social workers. To meet the former lack, the Commonwealth Fund has provided additional fellowships.

For some years, professional social workers have taken an increasing responsibility for interpreting and applying mental hygiene principles in their field. The early years of the mental hygiene movement saw the psychiatrist almost solely responsible for therapy. Furthermore, the patient of that period was the individual with overt and full-blown problems—the psychotic, the seriously neurotic, the delinquent. In both these respects, the outlook in 1935 presents a contrast, due partly to the extraordinary evolution that has been taking place in the field of social case work, and partly to the orientation of this field to psychiatry and psychoanalysis. Today, the social worker, whether collaborating with psychiatrists or functioning independently, is more and more concerned with the integration of the average individual. Family welfare agencies quite generally are becoming consultation bureaus, staffed increasingly by psychiatric social workers. Psychiatric social work itself in 1935 is all but identical with generic social case work, and generic social case work consists in essence of approaching the individual client from the angle of mental health.

CRIME CONTROL *

By Edgar M. Gerlach

Supervisor of Social Service, U. S. Bureau of Prisons

PRISONS

General.—1935 was a quiet year in the prison field. There were no outstanding incidents, riots or fires. There were few major developments except in the field of prison labor. Some progress is being made in the development of good penal practice with an increasing emphasis on competent personnel. One of the speakers at the meeting of the American Prison Congress in Atlanta said: "Good correctional practice is more firmly entrenched in this country today than it ever has been throughout our history." Census reports indicate that at the end of the year the total prison population in this country was somewhat less than 150,000 which is a slight increase over the preceding year.

TREND OF PRISON POPULATION

1904 To 1936(a)

Year	Prison Population Jan. 1, 1936
1904	57,070
1910	68,735
1923	81,959
1926	(b) 94,800
1927	(b) 101,100
1928	109,346
1929	(b) 118,100
1930	(b) 129,400
1931	(b) 137,300
1932	(b) 145,800
1933	(b) 145,600
1934	(b) 144,700
1935	(b) 145,900
1936	(b) 145,300

(a) Figures derived from annual census reports on prisoners, and cover state and federal prisons, reformatories, and camps. Delaware and the District of Columbia are omitted, to secure comparability with earlier years.

(b) Including estimates for institutions not reported to the Census Bureau.

Prisons and the Depression.—Under the Chairmanship of Commissioner William J. Ellis, New Jersey State Department of Institutions and Agencies, a Committee of the American Prison Association made a survey of the effects of the financial strain of the depression on correctional systems. It was found that, during the five-year period from 1929-1934 inclusive, there was an increase of 19.4% in the number of prisoners cared for, with an increase of less than 1% in expenditures. The average annual per capita costs were decreased from $333 to $280. However, the survey at the same time revealed that many of the prison systems and separate penal institutions have profited by the Federal Works programs through improvements to present equipment and erection of new buildings. One state prison commission reported that "the United States Government is building us a modern prison at a cost of approximately $1,500,000." About 60% of the replies received indicated that assistance had been received from various emergency Federal agencies.

Prison Labor.—The situation with respect to the employment of prisoners became critical during the year. The Hawes-Cooper Act, which forbids the inter-state shipment of prison-made goods, became effective Jan. 19, 1934. This had a strongly adverse effect on prison industries operated under the contract system but has been less detrimental to those state penal systems using the "state-use" plan which confines prison production to the manufacture of articles used by the state and its political subdivisions. The two most significant developments in this field during the year have been the establishment of the Prison Industries Reorganization Administration and the setting up of a Board of Directors for the Federal Prison Industries.

Prison Industries Reorganization Administration.—The NRA had difficulty with certain cotton garment manufacturers who refused to comply with some of the code regulations and gave as their justification that they were forced to compete with prison labor. As a result of this, the NRA asked Judge Joseph N. Ulman of the Supreme Bench of Baltimore City to make a study of the prison industries. In his report Judge Ulman made clear that prison labor did compete in some instances with certain industries and recommended that the Federal Government assist the states in changing over from the old ''contract labor'' method of prison industry to the more satisfactory ''state-use activity.''

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* The author is indebted to the following officials of the Federal Bureau of Prisons for valuable contributions to this article: Joel R. Moore, Probation Supervisor; Ray L. Huff, Parole Executive; and Bennet Mead, Statistician.

As a result of this recommendation the President issued an executive order establishing a Prison Industries Reorganization Administration with a Board of five members, and an allocation of $100,000 for necessary expenses. The PIRA is to conduct surveys, to recommend prison industries programs and to suggest to the President loans or grants to the states for the purpose of effecting whatever reorganization is necessary to carry out these recommendations.

Federal Prison Industries.—The Federal Prison Industries, Inc., authorized by an Act of Congress, was organized under the terms of an executive order dated Dec. 11, 1934. The act authorizing the formation of the corporation specified that it should be governed by a board of directors of five persons, one of whom shall be a representative of industry, one a representative of labor, one a representative of agriculture, one a representative of retailers and consumers, and one a representative of the Attorney General. The law and the executive order empowered the corporation to determine in what manner and to what extent industrial operations shall be carried on in the several penal and correctional institutions of the United States and directed it, so far as practicable, to diversify prison industrial operations so that no single private industry would bear an undue burden of competition with the products of the prison workshops.

PROBATION

Trends.—During the year 1935 there was a continued expansion of the probation system for the U. S. District Courts; there was further development of the state compact idea; there were noteworthy reorganizations of two juvenile courts; the coordinating council idea continued to spread; the Social Security Act of 1935 provided for service to children in danger of becoming delinquent; an interesting experiment started in Minnesota, and in several southern and western states there were stirrings of public sentiment for adult probation.

Federal Probation.—During the year the following U. S. District Courts instituted probation service: Vermont; Virginia, Western; Oklahoma, Northern; North Dakota; Wyoming; Idaho; Washington, Eastern; and Puerto Rico. At the beginning of the year there were 112 probation officers and 78 clerks in the Federal system. At the end of the year there were 137 probation officers and 99 clerks. The probation system for the Federal courts not only expanded territorially but increased in efficiency. Many of the additional officers were appointed by the courts because of their increasing use of the probation officer to make pre-sentence investigations and because of the growing number of persons under probationary treatment. The following tabulation shows the total number under the supervision of U. S. probation officers:

	On Probation	On Parole or Conditional Release
Jan. 1—35	18,703	2,974
Jan. 1—36	19,393	3,612

State Compacts.—Under the Enabling Act of Congress in 1934, many states began making arrangements for compacts providing for exchange of professional services in supervising the conduct of persons on probation or parole that are permitted to transfer residence from one state to another. In November, at the invitation of New Jersey authorities, a conference was held at which there were representatives from nearly every state in the Union. At this Trenton, N. J. conference the basic importance of the state compact idea was firmly established, and it remains now for the legislatures of the states to enact legislation validating the arrangements entered into between the penal authorities of the states. An organization known as the Commission on Interstate Cooperation was effected. At its head is Judge Richard Hartshorne, of the Common Pleas Court of Newark, N. J. This movement had the active support of Attorney General Cummings.

Juvenile Courts.—Of particular interest to administrators and professional workers in the field of probation was the reorganization effected in two juvenile courts. The District of Columbia, under the leadership of Miss Fay Bentley, newly appointed Judge of the Juvenile Court, witnessed a complete reorganization of the probation department of the court. With the advice and assistance of an advisory committee and the U. S. Civil Service Commission the staff was placed on a professional basis. All positions were thrown open to competitive examination. Old officers who had been in the court for years took the examinations along with new applicants. A Director of Social Work was appointed to stimulate community responsibility and determine policies with respect to the relationship of the court to other social work agencies. A somewhat similar reorganization was effected in Pittsburgh under the leadership of Judge Gustave Schramm.

Coordinating Councils.—One of the important developments during 1935 relating to the field of juvenile delinquency and its prevention has been the growth of the movement for organized community planning under the program that has become popularly known as the coordinating council plan. This plan seeks to bring together all agencies and social forces of the community concerned with the welfare of young people for the purpose of making the community a safer and better place for children and youth. By the end of 1935 coordinating councils or similar community organizations had been established in numerous communities of widely scattered states throughout the country.

In order to have available more adequate information on the plans and accomplishments of the coordinating council program and its adaptability in other communities, the National Probation Association and the Federal Children's Bureau have undertaken to gather material concerning some of the councils functioning in various parts of the country.

Social Security.—The Federal Government, through the Social Security Act of 1935, has been authorized to cooperate with state public welfare agencies in establishing, extending, and strengthening, especially in rural areas, welfare services for the protection and care of homeless, dependent, and neglected children and children in danger of becoming delinquent. An annual Federal appropriation of $1,500,000, to be administered through the Children's Bureau was provided for in the act. The plans for the use of these funds are to be made jointly by the state authorities and the Children's Bureau.

Minnesota Experiment.—A. C. Lindholm, head of the State Parole System, began a modest experiment in two Minnesota counties by offering the services of his parole officers to the county judges for supervision of persons placed on probation. The experiment will be watched with interest for there seems to be a growing approval of the combination of parole supervision with probation supervision. Wisconsin for several years has been developing a system whereby the state probation officers have acted as supervisors of persons released on parole. During the past year the number of state probation officers was increased.

Other Significant Developments.—During the year public sentiment grew rapidly and began to express itself in demands for adult probation in several of the southern states and in Oregon. In Texas, the Legislature submitted a referendum which was acted upon favorably by the people of Texas who voted to take the power of suspending sentence away from the trial jury and authorized the Legislature to provide a probation law. Such a bill has already been prepared for the Texas Legislature. In South Carolina, Governor Johnson, in his message to the Legislature, recommended a probation and parole system for his state. Similar movements are on foot in Alabama and Virginia. The new Governor of Kentucky is actively pressing for the passage of an adult probation law in his state.

PAROLE

General Trends.—The year was marked by extensive and intensive newspaper attacks on ''parole''. It is unfortunate that the majority of these attacks were directed at parole as a function rather than at the misuses made of it and no distinction made between parole and pardon or other forms of clemency. When properly administered parole is a protection to the community. This principle of protection is primary in the selection of parolees, their preparation for the parole period and their supervision in the community. Parole brings to play on the offender and the offending situation all of the normal resources of the community.

Developments.—Significant developments during the year have been the increased attention given to interstate compacts and a special survey of parole services made as a part of the Sherrell Committee appointed by the Governor of Ohio and reported in the publications of that Committee. Texas, Virginia and Washington have taken steps to improve the parole situation within their borders. The American Association of Social Workers has appointed a Committee to further develop the professional status of parole officials.

Parole Prediction Study.—The completion of the first and second units of a study made of Federal parole cases, the first step of which provided an Experience Table comparable to that secured in the Burgess, Glueck, *et al*, studies in ''parole prediction''. The second part of this study showed that this Experience Table, and probably similar tables, are not serviceable for prediction purposes. The significance of this finding will have material effect on parole activity in that it renews the entire question of the scientific approach to parole matters.

CHILD WELFARE

BY C. C. CARSTENS

EXECUTIVE DIRECTOR, CHILD WELFARE LEAGUE OF AMERICA, INC.

SOCIAL SECURITY LEGISLATION

With the passage of the Social Security Law, enacted by the last session of the 74th Congress and signed by President Roosevelt Aug. 15, 1935, and as soon as an appropriation has been made to carry out its provisions, the Federal Government embarks upon a new policy with reference to child welfare.

By the limitations set by the Constitution of the United States and its statutes the Federal Government has up to this time confined its activities largely to the work done by the Children's Bureau of the Department of Labor established in 1912. This Bureau has made extended surveys of conditions affecting the children of the nation, has been available for consultation regarding improvements that could be effected in these conditions, and has published survey findings, digests of laws, manuals for board members, and many other reports, pamphlets and leaflets, by whose means an effective educational program has been carried on.

For a short time the Children's Bureau was charged with the responsibility for enforcing the Federal Child Labor law, until that was declared unconstitutional, and for a longer period it also administered substantial grants-in-aid to the various states for maternal and child health, until those appropriations ceased.

By the new legislation the Social

Security Board is empowered to make refunds to states and thereby indirectly to counties of one-third of the expenditures they may have made to aid to dependent children in their own homes in accordance with certain required standards.

Thirty-seven million dollars was expended in the various states from state and county appropriations for this form of child aid during 1934. A similar expenditure would under the new law, if its requirements were met by all the states, bring refunds of about $12,000,000. As only about one-half of the counties of the United States made any appropriation for such purpose last year, even where adequate authority for it existed, the authorized appropriation of $24,750,000 by the Security Law would make possible refunds on the same scale of expenditure in all the existing counties.

The most rural counties have on the whole had the least development in mothers' aid. Since its benefits from these Federal funds are available in any given state only when the provisions of the law are made applicable to all the local units of the whole state, the rural child stands to benefit particularly. These refunds will bring stimulus to many states for making provision for the care of dependent children in their own homes with their mothers or with other near relatives more nearly adequate to meet the family's needs.

Three new appropriations for child welfare were authorized to be expended, under the supervision of the Children's Bureau, as follows:

1. The sum of $3,800,000 was authorized for maternal and child welfare, $20,000 to be allotted to each state; $1,800,000 to be allotted them in proportion to the number of live births; $980,000 to be allotted on the basis of the need of the individual states. This appropriation requires that the states match the Federal funds, except for such money as is given on the basis of need.

2. The appropriation of $2,850,000. was authorized for services and facilities for crippled children or for children suffering from conditions which lead to crippling. The sum of $20,000 is to be allotted to each state, the balance being allotted on the basis of need, taking into account the number of crippled children in need of such services and the cost thereof. This appropriation requires matching, and states will obtain 50 per cent of their expenditures.

3. The appropriation of $1,500,000 was authorized to enable the United States to cooperate with the states "in establishing, extending and strengthening, especially in predominantly rural areas, public welfare services for the protection and care of homeless dependent and neglected children and children in danger of becoming delinquent." This appropriation was authorized for the development and improvement of public services to needy children but no part is available for child-care as ordinarily understood. The care of these individual children remains the responsibility of the states and local communities in their public and private capacities. In spite of these limitations there is good reason to believe that the rural child here also will be particularly benefited by the stimulus to public and private services which the Federal appropriation is likely to bring.

STATE AND COUNTY ORGANIZATION FOR CHILD WELFARE

For the purpose of rendering public service to children, the authorization for which has for years been on the statute books of various states, certain of them early developed state departments of public welfare with child welfare divisions, or state departments of child welfare, either with local units to administer public welfare or child welfare, and as a rule in the individual counties. The new Federal legislation for social security has given additional stimulus to the development of state and local units of service during the past year.

Alabama has created a State Department of Public Welfare, by an Act approved Aug. 27, on lines that are typical of programs in other states. The Act creates a state department consisting of a board of seven members with overlapping terms, a commissioner appointed by the board who shall serve as the executive and administrative officer for the department, and a staff. The State Child Welfare Department, which has been in existence for many years, has been incorporated into this Act, with the title of Bureau of Child Welfare. This Act also provides that there shall be established in each county a county department of public welfare under a county board of seven members, with a county director of public welfare. Among the duties of those county departments are included the care of dependent, neglected, delinquent and otherwise handicapped children.

Florida has divided the state into 12 administrative districts, consisting of one or more counties, with child welfare as one of the functions of each district.

Maryland has empowered the Board of State Aid and Charities to coordinate, supervise and control all the welfare activities of county boards and the Baltimore City Department, and includes as one of its activities the care of dependent and delinquent children.

Washington has created a State Department of Public Welfare, one of whose three divisions is child welfare.

New state agencies have also been established in Montana, in charge of a commission of five which includes in its functions the care of dependent children and cooperation with the Federal government; in New Hampshire, which adds the present functions regarding child-care to the administration of relief; in North Dakota, where the board of seven in addition to relief responsibilities also administers aid to dependent children at home and away from home, and provides care for crippled children; in South Dakota, where a commission of nine and a welfare commissioner include in their responsibilities the administration of mothers' aid, aid to dependent, neglected and physically handicapped children, and in several other states where state departments are entrusted with the responsibility of administering Federal and state funds, if such become available.

There are at present 32 states having departments of public welfare, three others having boards of charities and correction, and nine states having a system of county units of public welfare either in existence or authorized by statute.

The general trend of development seems to be to establish a state department of public welfare, which besides aid to families and other services, will assume responsibility for the care of dependent, neglected and sometimes delinquent children as a part of its duties for social welfare service. In addition the local units tend to give service and care to needy children who cannot otherwise be provided for by private sectarian or non-sectarian agencies.

NEW CENSUS OF DEPENDENT CHILDREN

The preliminary results of the Decennial Census of Dependent Children Under Care in Institutions and Agencies, Dec. 31, 1933, have become available. Of 242,929 dependent children in foster care away from home on that date, 140,352 were in foster institutions and 102,577 in foster family homes. In addition there were also 49,468 children under care in their own or their relatives' homes or temporarily in hospitals, sanitaria, or elsewhere. The total number of dependent children reported in 1923 was 220,680.

In comparing the numbers in care in the various states in 1933 with those gathered from state departments in 32 states for the White House Conference on Child Health and Protection in 1930, some interesting changes are noted. New Hampshire, which on July 1, 1930 had the highest number of dependent children in care away from home, has reduced its number greatly. The State of New York now has the largest number of children in care away from home in proportion to the population, with Rhode Island second, and Vermont and Connecticut standing third and fourth.

The apparent growth in the number of dependent children under care in

1933 as compared with 1923 is due to the discovery of additional groups of children cared for under auspices such as were not included in the 1923 Decennial Census.

Instead of an apparent increase, due to the inclusion of additional groups, there has actually been a shrinkage in the number of dependent children under care away from home, which became particularly marked during the years of the depression. On the basis of the preliminary figures for 1933 most states have a smaller number of children in care, to which the following striking exceptions are found: New York, Connecticut, Pennsylvania, Ohio, Indiana and Maryland, all of which increased their proportionate figures, while the figures for Wisconsin and Nebraska remained unchanged. The figures for Massachusetts, Michigan and Louisiana show striking reductions.

Approximately 6,000 fewer children were cared for each year in institutions or foster family homes than the year before, from 1930 on through 1933. Of 32 states for which comparable figures for these years are available the numbers in two states remained unchanged, 10 states increased their number of dependent children cared for away from home, while in 20 states the number was decreased.

Lower public appropriations and smaller incomes from endowments and contributions to private agencies explain much, but the widespread home relief distributed, especially in rural states, also accounts for some of this shrinkage.*

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* For child labor legislation see "Child Labor" p. 574.

HOUSING PROGRESS

By Stewart McDonald

Administrator of the Federal Housing Administration

OPERATION OF THE NATIONAL HOUSING ACT

The Federal Government's part in the establishment of a new system of home financing and consequent improvement in housing conditions has had, after the past 12 months, sufficient seasoning to warrant a forecast on the future operation of the National Housing Act.

Currently the Housing Act is operating at near peak efficiency throughout the country. Immediately after its passage by Congress in June, 1934, it was found that the first important step would be the passing of enabling legislation in all of the states to permit lending institutions to operate under the new financing system fostered by the Act.

To date 44 of the 48 states have amended their laws governing the practice of mortgage lending. The passing of such enabling legislation was not, however, accomplished rapidly. It was well into the Summer of 1935 before any appreciable volume of business in insured mortgages could be developed by private lending institutions.

From May until December lending institutions, however, reached a prevailing level of approximately $1,00,000 daily in the selection of home mortgages for appraisal. This is an average figure despite the fact that winter and the passing of the building season has resulted in a slight decrease in the business of insured mortgages.

AIMS AND ACHIEVEMENTS

A review of the Housing Act's operation reveals that it is achieving the two-fold aim of reviving activity in the construction and related durable goods industries as well as raising the American standard of living and making actual ownership of homes more easy of accomplishment.

Title I of the Housing Act, described as the Modernization Credit Plan provides for loans up to $2,000 for the repair and modernization of all types of real estate and the purchase and installation of certain types of necessary machinery and equipment. It provides also for loans up to $50,000 for the repair and modernization and the purchase and installation of certain types of machinery and equipment for property already improved as, or to be converted into, apartment or multiple-family dwellings, manufacturing plants, schools, colleges and similar institutions, office, business or commercial buildings and hospitals. The loans are strictly private capital provided by lending institutions and insured by the Federal Housing Administration. They are limited to five years duration and are repayable in equal monthly installments. Under the original act, this activity was to have ended Dec. 31, 1934. It was extended by Congress to March 31, 1936.

How well this emergency has served to stimulate all manner of industry and business, as well as re-employment of labor, may be gauged by the current move by business and industry to seek a further extension of the Modernization Credit Plan. Through Dec. 18 the total of Modernization and Repair Notes insured reached $244,725,833.

MUTUAL MORTGAGE INSURANCE

Mutual Mortgage Insurance, the plan of the Federal Housing Administration, is the first valuable contribution to home financing in more than a century. The ills that beset both mortgagor and mortgagee under the old system of two and some times three mortgages are too well known to require detailed analysis here. The complete collapse of this old system during the depression, when we witnessed a staggering epidemic of foreclosures all over the country, contributed as much as anything to the birth of the Housing Act.

The Mutual Mortgage Insurance Plan provides the legal basis for mortgage loans by commercial lending institutions up to 80 per cent of the appraised value of the property, providing the total mortgage does not exceed $16,000. The mortgaged property must be intended for occupancy by no more than four families. The mortgage, which is fully insured by the Federal Housing Administration, must be repaid in equal monthly installments over a period not longer than 20 years. At once, it becomes apparent that this plan puts home-owning within easy reach of a great group of wage earners who probably could not have afforded the luxury of home owning under the old system.

The Mutual Mortgage Insurance Plan establishes the Single Mortgage System of home financing and if it had accomplished no more than elimination of the costly second mortgage, it still would protect thousands of home owners from the hazard of losing their homes and their savings or, at best, from the eternal payment of usurious interest rates and renewal charges.

Under the Housing Act, the borrower of mortgage money locates his indebtedness in one instrument for which he pays five per cent per annum on the outstanding balance. His regular monthly payments cover principal, interest, taxes, service charge and insurance. Thus when he has made his final payment, the mortgage is fully amortized, the home is owned free and clear.

The period of time in which each mortgage is to be repaid is based on each individual's capacity to pay. This, in itself, overcomes one of the chief difficulties in the old system. Indiscriminate granting of short-term mortgages found many home owners in no position to make principal payments when due and, in some cases, unable to make even interest payments. This resulted in the vicious system of renewals, a costly enterprise for the borrower and one that fostered the building up of an unwieldy real estate debt structure.

The Single Mortgage System leaves neither mortgagor nor mortgagee in doubt on the repayment of the insured mortgage. The borrower knows that on a certain date each month he pays an amount as he would pay rent. This schedule is maintained until the mortgage is amortized.

The lending agency has adequate reason to applaud the new system of home financing because it provides for it a practical and absolutely safe and sound outlet for bank funds at a continuing profit. It must be remembered that the mutual insurance fund precludes the possibility of the lender losing a penny of capital investment. The most serious difficulty that could beset an insured mortgage would, under conditions that are primarily remote, reduce the earning capacity of the mortgage from five per cent to three per cent in cases of default and foreclosure. It is assumed, however, that such cases are likely to be rare.

The terms and conditions of the insured mortgage are standardized. This means that from the standpoint of the investor one insured mortgage is as good as another, no matter where the mortgaged property is located. The basic conditions are thus being established for a nation-wide mortgage market. Lenders or investors no longer are obliged to consider only such mortgages as can be obtained locally.

The establishment of a nation wide mortgage market, however, requires additional machinery. Provision is made in Title III of the Act for the establishment of national mortgage associations whose business it will be to buy insured mortgages from those who wish to sell them. These will be institutions with a minimum paid up capital of $2,000,000. They will obtain funds for purchasing insured mortgages from the sale of their own debentures, issued against the security of equivalent amounts of insured mortgages. Each association will be empowered to issue debentures in amounts up to 12 times its paid up capital stock so that the smallest one will be in a position to buy at least $24,000,000 worth of insured mortgages. Thus apart from all other advantages, the new system may be expected to assure the further advantage of liquidity in case of need.

LOW-COST HOUSING PROJECTS

Low-cost housing forms another important activity under the National Housing Act. The Federal Housing Administrator is empowered to insure mortgages on low-cost housing projects provided the insurance on any project does not exceed $10,000,000. The terms on which such projects are financed are, of course, substantially different than those on dwellings.

Low-cost housing projects are multiple family dwellings for persons of low income. They are promoted, developed, financed, etc., by private capital and private enterprise, the Federal Housing Administration simply insuring the mortgages, establishing the rental scale and setting the property standards. The Housing Administration also determines whether there is need of such a project before the property is eligible for insurance.

Low-cost housing projects of the Federal Housing Administration differ materially from the housing projects of other governmental agencies. They are not financed on government funds, as other housing projects, are, nor are they substitutes for slums. Those which have been constructed under the low-cost provisions of the National Housing Act are ultra-modern buildings, well located, adjacent to shopping and business centers and embody high standards in their physical equipment. The success of this form of housing and the enthusiastic reception which has been accorded to this type of dwelling by persons of low income, leads us to believe that during 1936 we shall quadruple our low-cost housing total of insured mortgages.

STATISTICAL AND ECONOMIC SURVEYS

Apart from the establishment of the Mutual Mortgage Insurance Plan and the Modernization Credit Plan, the Federal Housing Administration has initiated a number of statistical and economic surveys for which there has been great need by the mortgage lending and real estate businesses. These included a real property inventory and a financial survey of urban housing, the survey involving more than 60 cities in various parts of the country. It is enough to say that the research made by the Division of Economics and Statistics of the Federal Housing Administration establishes an entirely new idea in real estate and provides a clearer understanding of the anatomy of a city than has ever before been possible. This work involved mapping a great many cities and establishing a block breakdown for the purpose of determining the character of structures, general land use, income, condition, trend of neighborhoods, etc. It provides a basis for computing the useful life of structures in certain neighborhoods and for determining what conditions develop neighborhood decay. It is, of course, important to understand these conditions as they affect long-term investments in mortgages.

At the close of business on December 14 field reports and statistical sources indicate the total amount of modernization and repair work done in the United States since the inauguration of the Federal Housing Administration program as approximately $1,147,874,300. The number of modernization and repair notes insured by the Federal Housing Administration on that date totaled 665,972 for a value of $240,658,582. The number of mortgages selected for appraisal with fees paid number 63,581 for a value of $245,564,154.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

JUSTICE AND MAINTENANCE OF ORDER

American Bar Assn., Section on Criminal Law, Endicott Bldg., St. Paul, Minn.

American Civil Liberties Union, 100 Fifth Ave., New York City.

American Council of Learned Societies, 597 Fifth Ave., New York City.

American Institute of Criminal Law and Criminology, 357 E. Chicago Ave., Chicago, Ill.

American Law Institute, 3400 Chestnut Street, Philadelphia, Pa.

American Prison Assn. of N. Y., 135 E. 15th St., New York City.

National Committee on Prisons and Prison Labor, 250 W. 57th Street, New York City.

National Crime Commission, 120 Broadway, New York City.

National Police Conference, 240 Centre St., New York City.

National Probation Assn., Inc., 450 Seventh Ave., New York City.

National Society of Penal Information, 114 E. 30th St., New York City.

Society for the Prevention of Crime, 177 William St., New York City.

Women's Prison Assn., 110 Second Ave., New York City.

SOCIAL ORGANIZATIONS

American Political Science Assn., 205 Bennett Hall, University of Pennsylvania, Philadelphia, Pa.

American Red Cross, 17th between D and E Sts., Washington, D. C.

American Seamen's Friend Society, 72 Wall Street, New York City.

American Society for the Prevention of Cruelty to Animals, 50 Madison Ave., New York City.

Boy's Clubs of America, Inc., 381 Fourth Ave., New York City.

Boy Scouts of America, 2 Park Ave., New York City.

Children's Aid Society, 15 E. 22nd St., New York City.

Civic Forum, 123 W. 43rd St., New York City.

Federal Council of the Churches of Christ in America—Commission on the Church and Social Service, 105 E. 22nd St., New York City.

Girls' Friendly Society of the U. S. A., 386 Fourth Avenue, New York City.

Girls' Service League of America, 138 E. 19th St., New York City.

Humane Society of New York, 49 Seventh Ave., New York City.

National Catholic Welfare Conference, 1312 Massachusetts Ave., N. W., Washington, D. C.

NATIONAL SOCIAL WORK COUNCIL, 450 Seventh Ave., New York City.
THRIFT LEAGUE OF AMERICA, 480 Lexington Ave., New York City.
YOUNG MEN'S CHRISTIAN ASSN., International Committee, 347 Madison Ave., New York City.
YOUNG WOMEN'S CHRISTIAN ASSN., 129 E. 52d Street, New York City.

SOCIAL FRATERNITIES

BENEVOLENT AND PROTECTIVE ORDER OF ELKS OF THE U. S. A., 2750 Lake View Ave., Chicago, Ill.
INTERNATIONAL ASSN. OF LIONS CLUBS, 332 S. Michigan Ave., Chicago, Ill.
KIWANIS INTERNATIONAL, 164 W. Jackson Blvd., Chicago, Ill.
KNIGHTS OF COLUMBUS, 45 Wall St., New Haven, Conn.
KNIGHTS OF THE KU KLUX KLAN, INC., 2621 Peachtree St., Atlanta, Georgia.
KNIGHTS OF PYTHIAS, 1054 Security Building, Minneapolis, Minn.
LOYAL ORDER OF MOOSE, Mooseheart, Ill. (Supreme Lodge of the World).
MODERN WOODMEN OF AMERICA, 1504 Third Ave., Rock Island, Ill.
ROTARY INTERNATIONAL, 211 W. Wacker Drive, Chicago, Ill.
SOVEREIGN GRAND LODGE OF THE INDEPENDENT ORDER OF ODD FELLOWS, 12 West Chase St., Baltimore, Md.
SUPREME COUNCIL OF THE ROYAL ARCANUM, 407 Shawmut Ave., Boston, Mass.
SUPREME COUNCIL, 33° ANCIENT & ACCEPTED SCOTTISH RITE.—Northern Jurisdiction, 1117 Statler Building, Boston, Mass.—Southern Jurisdiction, 1733 16th St., N. W., Washington, D. C.
WOODMEN OF THE WORLD, Sovereign Camp, 14th and Farman Sts., Omaha, Nebraska.

(SOCIAL) HOME LIFE

LANDLORDS' COOPERATIVE ASSN., 18 E. 41st St., New York City.
NATIONAL HOUSING ASSN., 105 E. 22nd St., New York City.
NATIONAL PLANT, FLOWER & FRUIT GUILD, 70 Fifth Ave., New York City.
NEW YORK ASSN. FOR IMPROVING THE CONDITIONS OF THE POOR, 105 E. 22nd St., New York City.

(SOCIAL) CHILDREN

BIG BROTHER AND BIG SISTER FEDERATION, INC., 425 Fourth Ave., New York City.
BIG BROTHER MOVEMENT, INC., 315 Fourth Ave., New York City.
CAMP FIRE GIRLS, INC., 41 Union Square, New York City.
CHILD CONSERVATION LEAGUE OF AMERICA, 318 W. Washington St., Chicago, Ill.
CHILD WELFARE LEAGUE OF AMERICA, 130 E. 22nd St., New York City.
CHILDREN'S AID SOCIETY, 15 E. 22nd St., New York City.
HEBREW SHELTERING GUARDIAN SOCIETY, Pleasantville, N. Y.
NATIONAL CHILD LABOR COMMITTEE, 419 Fourth Ave., New York City.
NATIONAL CHILD WELFARE ASSN., 70 Fifth Ave., New York City.
SANTA CLAUS ASSN., INC., 152 W. 42nd St., New York City.

(SOCIAL) HEALTH

AMERICAN ASSN. OF SOCIAL WORKERS, 130 E. 22nd St., New York City.
AMERICAN BIRTH CONTROL LEAGUE, 689 Madison Ave., New York City.
AMERICAN CHILD HEALTH ASSN., 450 Seventh Ave., New York City.
AMERICAN FOUNDATION FOR THE BLIND, INC., 125 E. 46th Street, New York City.
AMERICAN HUMANE ASSN., 50 Madison Ave., New York City.
AMERICAN MISSION TO LEPERS, 156 Fifth Ave., New York City.
AMERICAN SOCIAL HYGIENE ASSN., INC., 450 Seventh Ave., New York City.
ANTI-PROFANITY LEAGUE, Ware, Mass.
BETTER FILMS, NATIONAL COUNCIL, 70 Fifth Ave., New York City.
CHARITY ORGANIZATION SOCIETY OF THE CITY OF NEW YORK, 105 E. 22nd St., New York City.
CHICAGO CRIME COMMISSION, 300 W. Adams St., Chicago, Ill.
CREMATION ASSN. CO. OF N. Y., 181 W. 238th St., New York City.
EUGENICS RESEARCH ASSN., Cold Spring Harbor, L. I., N. Y.
NATIONAL COMMITTEE FOR MENTAL HYGIENE, 450 Seventh Ave., New York City.
NATIONAL HEALTH COUNCIL, 450 Seventh Avenue, New York City.

NATIONAL HOUSING ASSN., 105 E. 22nd St., New York City.
NATIONAL RECREATION ASSN., 315 Fourth Avenue, New York City.
NATIONAL SAVE-A-LIFE LEAGUE, INC., 299 Madison Ave., New York City.
NEW YORK SOCIETY FOR THE SUPPRESSION OF VICE, 215 W. 22nd St., New York City.
NON-SMOKERS' PROTECTIVE LEAGUE OF AMERICA, 101 W. 72nd St., New York City.
TRAVELERS' AID SOCIETY OF N. Y., 144 E. 44th St., New York City.

(SOCIAL) TEMPERANCE

ANTI-SALOON LEAGUE OF AMERICA, 150 Fifth Ave., New York City.
NATIONAL TEMPERANCE SOCIETY, 289 Fourth Ave., New York City.
WORLD NARCOTIC DEFENSE ASSN., 578 Madison Ave., New York City.

FOUNDATIONS

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, 2 Jackson Place, Washington, D. C.
CARNEGIE FOUNDATION, 522 Fifth Ave., New York City.
CARNEGIE HERO FUND COMMISSION, 2307 Oliver Building, Pittsburgh, Pa.
CARNEGIE INSTITUTION OF WASHINGTON, 16th and P Sts., N. W., Washington, D. C.
GENERAL EDUCATION BOARD, 49 W. 49th Street, New York City.
GUGGENHEIM FOUNDATION, 551 Fifth Ave., New York City.
HALL OF FAME FOR GREAT AMERICANS, University of the City of New York, New York City.
MORO EDUCATIONAL FOUNDATION, 475 Fifth Ave., New York City.
ROCKEFELLER FOUNDATION, 49 W. 49th Street, New York City.
ROCKEFELLER INSTITUTE, York Ave. and 66th St., New York City.
ROOSEVELT MEMORIAL ASSN., 28 E. 20th St., New York City.
RUSSELL SAGE FOUNDATION, 130 E. 22nd St., New York City.
WOODROW WILSON FOUNDATION, 6 E. 39th St., New York City.

WOMEN'S WORK AND PROGRESS

AMERICAN ASSN. OF UNIVERSITY WOMEN, 1634 I St., N. W., Washington, D. C.
AMERICAN NURSES' ASSN., 450 Seventh Ave., New York City.
AMERICAN WOMEN'S ASSN., INC., 353 W. 57th Street, New York City.
GENERAL FEDERATION OF WOMEN'S CLUBS, 1734 N St., N. W., Washington, D. C.
GIRLS SERVICE LEAGUE OF AMERICA, 122 East 22nd St., New York City.
NATIONAL AMERICAN WOMAN SUFFRAGE ASSN., Grand Central Terminal, New York City.
NATIONAL ASSOCIATION OF WOMEN PAINTERS AND SCULPTORS, 42 W. 57th St., New York City.
NATIONAL COUNCIL OF ADMINISTRATIVE WOMEN IN EDUCATION, 1211 Gilpin Ave., Wilmington, Del.
NATIONAL COUNCIL OF WOMEN, U. S. A., 4 Park Ave., New York City.
NATIONAL FEDERATION OF COLLEGE WOMEN, Rolla, Mo.
NATIONAL LEAGUE OF WOMEN VOTERS, 532 17th St., N. W., Washington, D. C.
NATIONAL WOMAN'S CHRISTIAN TEMPERANCE UNION, 1730 Chicago Ave., Evanston, Ill.
NATIONAL WOMAN'S PARTY, 144 B St., N. E., Washington, D. C.
NATIONAL WOMAN'S RELIEF CORPS, 64 Spring St., Oberlin, Ohio.
PROFESSIONAL WOMEN'S LEAGUE, Broadway and 73d Street, New York City.
SOUTHERN WOMEN'S EDUCATIONAL ALLIANCE, 401 Grace-American Building, Richmond, Va.
WOMEN'S EDUCATIONAL AND INDUSTRIAL UNION, 264 Boylston St., Boston, Mass.
WOMEN'S ROOSEVELT MEMORIAL ASSN., Roosevelt House, 28 E. 20th St., New York City.
WOMEN'S TRADE UNION LEAGUE, 247 Lexington Ave., New York City.

DIVISION XVI

LABOR AND LABOR LEGISLATION

LABOR CONDITIONS

By Isador Lubin

Commissioner of Labor Statistics, Department of Labor

EMPLOYMENT

Employment generally showed marked improvement in 1935. In the 18 industrial groups covered by the monthly reports of the United States Bureau of Labor Statistics it is estimated that approximately 652,000 more wage earners were at work in October 1935 (the latest month for which data are available) than had been employed in October of the previous year. Unemployment, however, continued to be the preeminent labor problem. The exact number of persons without jobs still remains unknown. A nation-wide census of the unemployed was discussed during the year but no action was taken. Estimates by various private organizations have placed the total number of jobless in the United States in the latter part of 1935 as between 8,000,000 and 11,000,000. No accurate estimates can be made because of the lack of basic information for certain important groups of workers, such as those engaged in personal and professional service, in agriculture, and in small independent trades.

For most of the larger industries, especially those engaged in manufacture, extraction, and public utilities, the information as regards the current trend in employment and pay rolls is now very good, and for these the monthly reports of the United States Bureau of Labor Statistics offer substantially accurate measurements of current changes. These reports show that in October, 1935 employment in manufactures was approximately eight per cent higher than in October 1934, and that total pay rolls were about 20 per cent higher. The much more rapid rise in pay rolls than in employment was due primarily to an increase in the average hours worked and not to higher wage rates. It is also a matter of much significance that the improvement in employment was due almost entirely to the increased activity in the durable-goods groups of industries, such as blast furnaces, automobile industry, and manufacture of machine tools. Thus, using the average for the year 1923-25 as a base, the index of employment in all manufacturing industries was 85.3 in October, 1935 as against 78.4 in October 1934, an increase of 8.8 per cent; whereas in the durable-goods groups the change over the same period was from 62.9 to 74.9, an increase of 19.1 per cent, and in machine tools alone from 69.1 to 98.5, an increase of 42.5 per cent.

In the 19 non-manufacturing industries reporting to the United States Bureau of Labor Statistics the improvement during 1935 was, on the whole, less marked than in manufacturing. All but five of these industries (bituminous coal, telephone and telegraph, electric railroad and bus operation, quarrying and crude petroleum production) had better employment in

October, 1935 than in October, 1934, and in all but one (petroleum production) the pay rolls were higher, in many cases substantially higher. Metalliferous mining, which was one of the industries suffering most acutely from the depression, showed greatest improvement during this 12-month period, employment increasing 19.2 per cent and payrolls increasing 37.2 per cent. (see also, ''Employment Conditions'' pp. 564-570)

RELIEF MEASURES

Through direct relief, work programs and in other ways, Federal, state, and local authorities have tried to provide employment and to alleviate the distress attendant upon loss of work. The Federal Relief Act of 1935 provided $4,880,000,000 to be used for these purposes. This fund was disbursed with a view to gradual discontinuance of direct relief by the Federal Government and the placing of greater emphasis upon work-providing projects, such as the Works Program which was inaugurated by an Executive Order of May 6, 1935 and the PWA projects. The provision of employment for 3,500,000 persons was set as the objective and it was announced on Nov. 29, 1935 that this objective had been reached.

Payments for direct relief for 1935 totaled approximately $1,200,000,000 as compared to $1,065,659,568 in 1934. From the establishment of the Federal Emergency Relief Administration in May, 1933 to the end of November, 1935 about $3,700,000,000 of Federal funds were expended for relief. The last Federal funds under the Relief Act of 1935, to be used for direct relief, were distributed to the states for December, 1935. Unless Congress decides on a continuance of the Federal subsidies for relief, it is the announced policy of the Administration to turn over this responsibility to the state and local authorities.

A good deal of controversy occurred over the hourly rates of pay on Works Program projects, and several protest strikes occurred among the relief workers. In September, 1935 the average rate on such projects was 48 cents, as against an average of 65 cents on PWA projects where the law calls for the payment of the ''prevailing'' local rate (interpreted in some instances as being the union rate).

Other measures and agencies seeking to improve the employment situation include the Civilian Conservation Work, the subsistence-homestead movement, the provision of Federally aided low-cost housing, and the National Youth Administration (to provide work and relief for young people between 16 and 25 years of age).

WAGES AND HOURS OF LABOR

Hourly earnings, as indicated by the monthly reports of the United States Bureau of Labor Statistics, remained substantially unchanged during 1935. The average for all reporting industries was 57.5 cents in January, 1935, 58 in June and 57.2 in October, 1935. The average hours worked per week, however, increased slowly and irregularly but quite steadily, from 37.6 in January, 1935 to 38 in June and to 39.7 in October. With this increase in average hours worked, although hourly earnings remained almost stationary, there was an increase in the weekly earnings of the wage worker. Thus, per capita weekly earnings in manufacturing rose from $20 in January, 1935 to $20.54 in June and to $21.64 in October.

As indicated by these figures, the removal of all codes restrictions as a result of the NRA decision by the Supreme Court on May 27, 1935, had little or no immediate serious effect upon average hourly earnings. The rise in average weekly hours during the latter part of the year may be a reflection of a tendency of certain employers to disregard code hours.

The Federal Trade Commission was authorized by Executive Order of Sept. 26, 1935, to approve voluntary agreements or codes setting up labor standards. Up to Dec. 15, 1935, such agreements had been submitted by nine industries.

COST OF LIVING

The upward trend in the cost of living which began during the second half of 1933 continued throughout 1934 and into the spring of 1935.

During the four-month period from Nov. 15, 1934 to March 15, 1935, an increase of 1.9 per cent occurred. The price of food rose 6 per cent, that of fuel and light 0.3 per cent, house furnishings 0.7 per cent, and miscellaneous items 0.1 per cent; rents decreased 0.2 per cent. During the succeeding four-month interval—*i. e.,* from March 15 to July 15, 1935—the cost of living as a whole registered a very small decrease (0.1 per cent). Rises in the cost of foodstuffs (0.7 per cent), house furnishings (0.3 per cent), and in rents (0.3 per cent) were slightly more than offset by decreases in the cost of fuel and light (4.9 per cent), clothing (0.2 per cent), and miscellaneous items (0.2 per cent). The general index of cost of living (with the average of 1923-25 equalling 100) was 80.4 on July 15, 1935, as against 78.3 in the middle of 1934 and 99.1 in the middle of 1929.

SOCIAL SECURITY

Social Security Act.—A considerable advance toward the inauguration of a nation-wide system of social insurance was taken with the passage by the 74th Congress of the Social Security Act (Public Act No. 271). This act was approved Aug. 14, 1935. The act provides for assistance for (1) aged, (2) unemployed, (3) children, and (4) blind, besides providing Federal funds for the extension of (5) public health services, (6) services for maternal and child welfare, and (7) vocational rehabilitation of persons physically disabled. The old-age assistance is of two types: (1) Federal grants in aid, not to exceed $15 per pensioner per month, extended to states having approved old-age pension systems (*i. e.,* of state-wide coverage, and paying benefits to needy individuals 65 years of age, etc.), and (2) Federal annuities for superannuated workers, at age 65, the benefits to be based upon wages but in no case to exceed $85 per month. Under the annuity system, employees are required to contribute to the annuity fund after Jan. 1, 1937, the rate increasing from 1 per cent in 1937, 1938, and 1939, to 3 per cent after Dec. 31, 1948, while employers are taxed at a corresponding rate on payrolls. For unemployment compensation employers of eight or more persons must pay a Federal payroll tax of 1 per cent in 1936, 2 per cent in 1937, and 3 per cent in 1938 and thereafter, but 90 per cent of any amount paid by an employer toward a state unemployment system may be credited against this tax. Grants of Federal assistance for dependent children and blind persons are conditioned upon submission by states of approved plans. The aid for dependent children is limited to $18 per child per month and for blind persons to $30 per person per month.

A National Social Security Board was created to administer all of the provisions except those relating to maternal and child welfare. The members of this Board, appointed by the President on Aug. 23, are John G. Winant (chairman), Arthur J. Altmeyer, and Vincent Morgan Miles.

State Old-age Pension Systems.—That financial assistance was needed, if the state systems were to make provision at all adequate for their needy aged, has been evident for several years. Data gathered in the Bureau of Labor Statistics' annual survey have revealed that the states were experiencing increasing difficulty each year in financing their pension systems.

The year 1934 witnessed a remarkable territorial expansion of the pension movement, eight states and one territory having been added to the list of jurisdictions with pension legislation. The number of aged given aid more than doubled from 1933 to 1934 (rising from 115,547 to 236,205) but the amount spent for their assistance rose by less than 25 per cent (from $26,167,017 to $32,313,515). The adequacy of the monthly allowance may be judged from the fact that the average benefit, which was only $19.34 in 1933 was reduced to $14.69 in 1934. In the individual states the average monthly allowance ranged from 69 cents to $26.08. In even the most liberal states the average benefit was only about two-thirds of the legal maximum allowable.

Analysis of the financing measures resorted to indicates that the most adequate support for the pension system was accorded where the money was supplied from the general funds of the state. Special levies, in many cases, brought disappointing results.

Although at the end of 1934 there were 30 jurisdictions which had enacted pension legislation, the act was totally inoperative in three states, and in another practically so. In only 11 states was a state-wide system in operation.

Anticipating the enactment of a Federal law, a number of states early in 1935 either amended their previous acts or passed new measures. After the passage of the National act legislative action was taken in several additional states. Thus by the middle of October there were 37 states, two territories, and the District of Columbia which had legislated in this field. Further changes in state laws will undoubtedly be necessary in order to qualify for Federal grants in aid.

State Unemployment-Compensation Plans.—Although the subject of unemployment insurance had been studied by investigatory commissions in a number of states, the first and, until early in 1935, the only legislation enacted in this field was the Wisconsin law passed in 1932. Contributions by employers began in that state on July 1, 1934, and benefits become payable beginning with July 1, 1936.

During 1935, unemployment-compensation acts were placed on the statute books of eight additional states and the District of Columbia. In North Carolina the legislature passed an enabling act authorizing the setting up of an unemployment commission in the event of the passage of the Federal act. Of these acts six (those of Alabama, Massachusetts, New Hampshire, New York, Washington, and the District of Columbia) were of the ''pooled'' type, and the other two (California and Utah) followed the Wisconsin act by setting up the ''individual reserves'' plan. All of the states which meet the requirements of the National Security Act will be entitled to grants to assist them in the ''proper administration'' of their systems.

State Pensions for Blind.—At the end of 1934 there were 24 states which had legislation providing for assistance to the blind. These states disbursed $6,896,871 in allowances to 31,909 blind persons during the year. The number so aided was more than 80 per cent of the total number of blind persons reported in the census of 1930. The monthly allowances ranged from 83 cents to $33.12; the average for all States was $20.01. Three additional blind-pension acts were passed during the first seven months of 1935, bringing to 27 the total number of states with such legislation.

Trade-Union Benefits. — A small number of the stronger labor organizations pay old-age pensions. Of late years the disbursements for these benefits have been decreasing. Thus, benefits of this kind in 1934, as reported by the executive council of the American Federation of Labor, amounted to $3,912,940, as compared with $4,678,636 in 1933 and $6,148,302 in 1932.

Unemployment benefits are paid by a limited number of national and international labor organizations and by many locals. The report of the American Federation of Labor showed $4,467,802 as having been paid out in trade-union benefits for this purpose in 1934; the corresponding figure for 1933 was $13,784,043. Other trade-union benefits paid in 1934 included $15,011,044 for death, $1,023,314 for sickness, and $3,176,014 for disability. Benefits for other purposes aggregated $1,409,530.

Industrial Pensions. — There are many industrial firms which provide some type of retirement benefits, through either contributory or noncontributory plans, for their employees. The effect of the National Security Act upon the continuance and terms of these plans is as yet uncertain.

LAWS AFFECTING LABOR

The year 1935 was a fruitful one as regards enactment of Federal Labor legislation which included such important laws as the Work Relief Act, the National Social Security Act, and the National Labor Relations Act. (See Mediation and Arbitration, p. 551). Other important enactments include the Railroad Employees' Retirement Act of 1935, providing for a railroad retirement system to be financed by an excise tax of 3½ per cent payable by employers and employees; the Motor Carrier Act, giving the Interstate Commerce Commission power to make requirements as to maximum hours of service, safety regulations, etc., in the motor transportation industry; the Prison Labor Act, designed to aid in the regulation of prison-made goods, by forbidding the transport of such goods into states where their sale is prohibited, and requiring the labeling of shipments of such goods; the Bituminous Coal Conservation Act (Guffey Act), designed to stabilize the industry and bring about better labor relations; and the amendment of the so-called ''Davis-Bacon Act'' so as to require the predetermination by the Secretary of Labor of the prevailing wage which, under the act, must be paid on certain public-works projects financed by the Federal Government. Court tests of the constitutionality of some of these acts are already under way or being planned.

A notable achievement in state legislation was the passage in South Carolina of a workmen's compensation law, thus reducing to two (Arkansas and Mississippi) the states which have not as yet acted to give the workers within their borders this type of protection.

CHILD LABOR

One of the purposes of the National Industrial Recovery Act was eventually to abolish child labor in the United States. Practically all of the industrial codes adopted under the act prohibited the employment of children under 16 in any occupation and of those under 18 in hazardous work. With the disappearance of the codes as a result of the Supreme Court decision in the Schechter case, this protection was lost except in so far as individual companies cared to continue these safeguards through voluntary agreement. The national child labor amendment which would abolish the employment of children under 18, was ratified by four additional states (Idaho, Indiana, Utah, and Wyoming), bringing the total number of ratifying states to 24. (see also ''Child Labor'' pp. 574-577)

LABOR ORGANIZATIONS

The passage of the National Industrial Recovery Act, with its guaranty to workers of the right of collective bargaining through representatives freely chosen by themselves, resulted in wide-spread efforts at organization. Special organizing campaigns were started in such hitherto non-union industries as steel, automobile, aluminum, oil, and rubber and in some cases considerable progress was made. Under this impetus the membership of the American Federation of Labor rose from 2,126,796 in 1933 to 2,608,011 in 1934 and 3,045,347 in 1935. A survey by the Bureau of Labor Statistics shows an aggregate membership, including independent unions, in 1935, of approximately 4,500,000, exclusive of Canadian membership.

Organization in the mass-production industries has resulted in making of increasing importance the question of craft *versus* industrial unionism. For the most part the workers in these industries have been organized on an industrial basis into locals directly affiliated with the American Federation of Labor. The problem of such industrial locals came before the 1934 convention of the Federation. The meeting decided to authorize the executive council to issue national charters to industrial unions in the mass-production industries, and left in the hands of the council the question of the overlapping of jurisdiction of these unions and those of the special crafts.

In the 1935 convention of the American Federation of Labor this subject came up again and overshadowed all other issues. The convention decided against proponents of the industrial-unionism and for a continuance of the protection of the ''contractual'' rights which, it was felt, the craft unions had acquired in the Federation. That the matter is far from settled is indicated by the subsequent resignation from the Federation's executive council of the president of the largest industrial union in the

United States (the United Mine Workers).

INDUSTRIAL DISPUTES

According to data collected by the Bureau of Labor Statistics, the first eight months of 1935 showed a total of 1,634 strikes, as against 1,625 in the corresponding period of 1934. On the average, however, the strikes of 1935 were less severe than those of the preceding year. This is shown by the fact that the strikes during the first eight months of 1934, involved 1,403,822 workers and resulted in the loss of 1,101,755 workers and 13,687,710 days 18,238,535 days' work, as against lost during the same period in 1935.

EMPLOYMENT CONDITIONS

By Royal E. Montgomery

Assistant Professor, Cornell University

TOTAL PRODUCTION, FACTORIES AND MINES

	Total	Manufacturing	Minerals
1929	119	119	115
1930	96	95	99
1931	81	80	84
1932	64	63	71
1933	76	75	82
1934	79	78	86
1935			
January	88	87	91
February	91	91	92
March	91	91	90
April	89	91	79
May	87	87	88
June	86	84	87
July	83	83	84
August	86	87	85
September	89	89	92

EMPLOYMENT TRENDS IN MANUFACTURING AND MINING

The output of manufactures and minerals increased substantially during 1935, as compared with 1934, and employment gains, while moderate, were more important than any since the inauguration of the codes and President's reemployment agreement. At the beginning of the fourth quarter of 1935, according to the Federal Reserve Board's index, total production of factories and mines was back to 89 per cent of the 1923-25 average. The preceding tabular summary indicates production trends from 1929 through September, 1935 (1923-25 average = 100).

The production trend in manufacturing as a whole, in mineral production as a whole, and in selected manufacturing industries since September, 1934, has been as in table below (1923-25 average = 100).

Total factory employment in November, 1935, was more than 10 per cent in excess of that a year earlier. The National Industrial Conference Board on Nov. 30 estimated that between October, 1934 and October, 1935 the number of workers in the 25 manufacturing industries reporting to it increased by 12.7 per cent, and total man-hours 28.1 per cent. These increases continued through November, the report of Dec. 30, 1935 showing that from October to November,

	September 1934	December 1934	March 1935	June 1935	September 1935
Manufacturing, total	69	85	86	85	89
Iron and Steel	38	65	72	66	84
Textiles	63	97	98	100	106
Food products	120	102	77	74	78
Automobiles	51	88	106	100	50
Leather products	88	104	108	103	102
Cement, glass	50	45	47	58	47
Petroleum refining	152	154	153	166	172
Tobacco products	125	143	130	138	129

1935, total employment increased 1.8 per cent and total man-hours worked 2.1 per cent. The Conference Board's index number of factory employment (1923 = 100) in November, 1935 was 86.6. Estimates of the United States Bureau of Labor Statistics, whose data cover a larger number of workers, showed that in September, 1935, total factory employment was 83.5 per cent of the 1923-25 average, as contrasted with the 1934 average of 78.8 per cent. Employment in September, as reported by the Bureau, was, however, exactly 10 per cent in excess of that of September, 1934. Of significance was the fact that, for the first time since the depth of the depression, the more important employment gains took place in the durable goods industries, where the depression unemployment has been concentrated. The following table shows the absolute number of wage-earners employed in August (the last month for which such data were available at the time of preparation of this section) and the comparative gains in employment in the durable goods and non-durable goods industries:

	Estimated Number of Wage-Earners	Indexes (1923-25 average = 100)		
		All manufacturing	Durable goods groups	Non-durable goods groups
1934 average	6,600,100	78.8	65.8	92.7
1935 average				
January	6,595,700	78.7	66.1	92.3
February	6,809,000	81.2	69.3	91.1
March	6,906,300	82.4	70.8	94.8
April	6,906,100	82.4	72.6	94.0
May	6,795,500	81.1	71.3	91.6
June	6,669,200	79.6	69.5	90.4
July	6,664,700	79.5	69.3	90.5
August	6,850,900	81.7	70.4	94.0

The employment level indicated by the Bureau of Labor Statistics' index numbers of 81.7 for August and 83.5 for September (and by the Conference Board's indexes, on the 1923 basis of 100, of 85.1 for October and 86.6 for November) should be compared with that obtaining at the depth of the depression. In March, 1933, according to the data of the Bureau, factory employment was only 59 per cent of the 1923-25 level. Between January, 1933 and January, 1935, according to a report published by the Bureau in March, 1935, total factory employment increased by 30.6 per cent, and these gains, added to the just-summarized 1935 gains, are indicative of the improvement that has occurred since factory employment reached its low point. At the same time, employment at the end of 1935 was between 13 and 16 per cent below the level of the mid-1920's, while the nation's total labor supply, and the number of persons who would normally become attached to manufacturing, has been increasing.

Throughout the depression, the low spots in employment were concentrated in the capital goods industries and in certain consumer-goods industries which make luxury products. As was indicated in THE AMERICAN YEAR BOOK for 1934, however, employment gains in some of these industries were considerably greater that year than in manufacturing as a whole; and this trend continued during 1935. The following table presents the United States Bureau of Labor Statistics' separate indexes for the durable and the non-durable goods industries, and the percentage change in employment in each, and for illustrative purposes, the same data for the selected industries coming within each category.

In spite of the already-indicated increased production in mining, employment failed to gain as it did in manufacturing. Average employment in anthracite mining in 1935 (based

	Index of Employment, August, 1935 (1923-25 average = 100)	Per cent change August 1934 to August 1935
Durable goods	70.4	+6.5
Non-durable goods	90.4	......
Iron and steel	73.2	+6.7
Lumber and its products	55.3	+12.9
Machinery	87.3	+10.6
Agricultural implements	117.8	+76.3
Electrical equipment	70.4	+76.3
Stone, clay, glass products	55.9	+5.3
Automobiles	95.1	+2.8
Textiles	92.9	+5.3
Food Products	109.9	−10.0
Leather Products	90.1	−1.1
Tobacco Manufactures	57.9	−11.1
Chemical and petroleum refining	107.9	+.9
Paper and printing	95.9	+2.2
Rubber products	77.9	−3.5

upon the data for the first eight months) was 53.8 per cent of the 1929 level, as compared with the 1934 average of 59.6. This decline was, however, a consequence of a distinct recession in July and August, and for the previous months of the year employment lagged only slightly below the level of the previous year. Average employment in the bituminous coal mines during the first eight months of 1935 was 54.2 per cent of that of 1929, as compared with 77.2 per cent in 1934. In metalliferous mining employment rose slightly during 1935, the average of the monthly index numbers for the first eight months (1929 = 100) being 45.2 as compared with 41.6 for the 12 months of 1934.

BUILDING CONSTRUCTION

Between January and September, 1935, according to the Federal Reserve Board's data, the value of all construction contracts awarded increased from 22 to 44 per cent of the 1923-25 average, that of residential contracts from 10 to 25 per cent of the same average, and that of the non-residential contracts from 32 to 59 per cent. Accurate statistics on the actual number of men employed in building construction are not available. In January, 1935, according to the estimates of the United States Bureau of Labor Statistics, total employment was 6.4 per cent greater than it had been during the corresponding month of the preceding year, and in only one of the first nine months of 1935 (February) did it fall below the level of the corresponding month of the preceding year. In September, 1935, total employment was 8.1 per cent greater than it had been during September, 1934. Owing to the unusually severe depression experienced by the industry, however, these gains failed by far to bring employment back to the percentage of pre-depression employment attained in manufacturing by the end of 1935. Employment in the building construction financed by the Federal Government is summarized in a later paragraph.

RAILROADS

Employment on Class I railroads failed to increase in 1935, the index number for September (1923-25 average = 100) being 56.1, or 1.4 less than in September, 1934. The index numbers during the depression years, on the same base, are as follows: 1930, 83.3; 1931, 70.6; 1932, 57.8; 1933, 54.4; 1934, 56.5; 1935 (average for the first six months) 55. According to the reports of the Interstate Commerce Commission, there were 999,143 workers, exclusive of executives and officials, employed in August. This absence of employment gains in 1935 accompanied a moderate increase in railroad traffic during the first three quarters of the year. Freight car loadings are reported by the Federal Reserve Board to have increased from 58 per cent of the 1923-

25 average in January to 70 per cent of the same average in September. The average of the index numbers of freight car loadings for the first nine months of 1935 (62) is, however, exactly the same as the average for the entire year 1934.

FARMS

The Bureau of Agricultural Economics estimates that the total farm population on Jan. 1, 1935 was 32,779,000, as compared with 32,509,000 one year earlier and 32,242,000 on Jan. 1, 1933. The 1935 figure again established an all-time high; but both the 1934 gain of 270,000 and the 1935 gain of 267,000 contrast sharply with the 1932 increase in total farm population of 1,001,000. Both migration from cities to farms and from farms to cities declined in 1934, as compared with 1933, but in both years the cityward flow of population exceeded the farmward flow—in 1933 by 277,000 and in 1934 by 211,000—, and the increase in farm population was a result of the fact that the net loss from migration did not equal the excess of the birth rate over the death rate. While the net migration away from farms in both years has been small, its continuance in 1934 is significant in that it probably represents a return to the urbanward flow of population that occurred every year from 1920 through 1929, but reversed itself during the first three years of the depression. In 1932 the farmward movement exceeded the cityward movement by 533,000. As the following tabular summary indicates, the excess of births over deaths was 13,000 less in 1934 than 1933, and the increase in farm population by 3,000 more than in 1933 was a consequence of the fact that the excess of the cityward movement over the farmward was less than in 1933:

	1933	1934	Change between 1933 and 1934
Number going to farms	951,000	783,000	−168,000
Number going to cities	1,178,000	994,000	−184,000
Natural increase in population	494,000	481,000	−13,000
Net change in rural population	267,000	270,000	+3,000

PUBLIC UTILITIES, TRADE, AND HOTELS

In these, the steadier branches of business, employment declined slowly during the depression, reaching the low point in 1933, and then experienced fairly substantial gains (except in the telephone and telegraph business) in 1934. These 1934 gains were not, however, continued in 1935. The following table shows the percentage by which employment was below the 1929 average during the years 1931-35 inclusive. The 1935 figures are based upon an average of the first eight months.

	1931	1932	1933	1934	1935
Telephone and telegraph	13.4	20.9	29.6	29.7	29.9
Power and light	4.4	17.0	21.2	16.2	16.5
Electric railroads and motor bus	15.3	24.5	30.0	27.9	28.6
Wholesale trade	13.4	21.8	22.1	17.2	16.8
Retail trade	10.6	19.1	18.3	17.9	19.5
Hotels	8.3	21.0	25.1	19.8	19.0

PUBLIC EMPLOYMENT AND RELIEF WORK

Employment furnished by the Federal Government is of two general classes: (1) Employment in the executive, legislative, or military services and on various construction projects financed by the Federal Government, and (2) employment on relief work where work itself and the system of payment is of an emergency-relief character. The most important change during 1935 was the transfer of workers from relief rolls to employment furnished by the Works Progress Administration established under the Emergency Relief Act of 1935, and with this increase the sharp decline in the number of workers employed on the emergency work program of the FERA (Federal Emergency Relief Administration). The Bureau of Labor Statistics estimates that, in September, 1,812,861 persons were employed in kinds of service coming within the first general class, and 1,419,822 in types of work coming within the second general class. Of the 1,812,861 having employment in the various services of the United States Government, 794,679 were in the executive service, 11,829 in the judicial service, 5,137 in the legislative service, 344,520 on construction projects financed by the Public Works Administration, 9,301 on construction projects financed by regular governmental appropriations, and 335,839 on the Works Program instituted in 1935. Of the 1,419,822 persons coming within the second general group, 885,765 were employed on jobs furnished under the Emergency Work Program of the FERA and 534,057 were in Emergency Conservation Work. The number of persons at work on Works Progress Administration projects increased very rapidly during the latter months of 1935, and on Dec. 9 it was announced that 2,678,629 individuals were so employed. The trend of employment on Public Works Administration projects and on the emergency work program of the FERA, which is in process of liquidation, during the first eight months of 1935 was as follows:

1935	Projects financed from Public Works Funds	Emergency Work Program of FERA
January	304,723	2,472,091
February	272,273	2,461,730
March	281,461	2,402,018
April	333,045	2,308,838
May	394,875	2,228,545
June	414,306	2,021,060
July	405,332	1,928,789
August	394,509	1,410,513

Although 534,057 persons were in the Civilian Conservation Corps in September, the enrollment for the first quarter of 1936, according to the statement of the director, was to be reduced to 428,000, and it was expected that the number of men in CCC camps would be decreased to 300,000 by July 1, 1936.

PART-TIME EMPLOYMENT

While accurate statistics as to the number of men working part-time are still not available, the percentage changes in man-hours worked, persons employed, and the length of the average working week indicate a diminution in the amount of part-time work during 1935. As was indicated in THE AMERICAN YEAR BOOK for 1934, the part-time employment situation when the codes and President's re-employment agreement of 1933 went into effect was probably about what it had been a year earlier, when a 1932 study showed that 56.1 per cent of all workers and 63 per cent of workers in manufacturing were on part time. Inferences drawn from the 1934 data were that the work-sharing movement did not become accelerated during the latter part of 1933 and 1934, although the codes and blanket Re-Employment Agreement stopped the tendency manifested in the first half of 1933 to increase man-hours by lengthening the working week instead of by employing more men. During 1935, however, and especially after the Supreme Court's invalidation of the NRA in May, the tendency was distinctly in the direction manifested during the first half of 1933: an increase in man-hours by lengthening the working week rather than by a proportionate or nearly proportionate increase in the number employed. Between November, 1934, and November, 1935, according to the reports of the National Industrial Conference Board, the average working-week rose from 34 hours to 38.6 hours, or 13.5 per cent; the number of workers employed increased 18 per cent, and total man-hours increased 34.1 per cent. These data indicate a diminution in the amount of part-time work during 1935, as well as an increase in the number having jobs. The American Federation of Labor's data show that 22 per cent of union members were working part time in November, 1935, and that this percentage has not been less than 21 or more than 23 during any of the ten other reported months of the year. The average percentage of union members working part-time during preceding years was: 1931, 19; 1932, 21; 1933, 21; and 1934, 24. The Federation's data do not, however, indicate the increase in the average weekly hours worked of those still on part time.

VOLUME OF UNEMPLOYMENT

Trends and Comparisons.—Estimates of the volume of unemployment still have to be based upon inferences drawn from the 1930 and 1931 censuses, from indexes of the trend of employment and calculations as to the total labor supply, and from various scattering sources of information. The National Industrial Conference Board estimates that there were 9,177,000 unemployed in November, 1935, this figure representing a decrease of 1,032,000 or 10.1 per cent, since November, 1934. According to the Conference Board's data, unemployment in the manufacturing and mechanical industries was 27.8 per cent less in November, 1935, than in November, 1934; 7.9 per cent less in transportation; 7.1 per cent less in domestic and personal service; 4.2 per cent less in trade, and 7.7 per cent less in its list of miscellaneous industries. In mining, on the other hand, the Board found unemployment to be 4.9 per cent greater in November, 1935, than it had been a year earlier. The following is the Board's estimate of the total number of unemployed toward the end of 1934 and toward the end of 1935 for the various industrial groups.

These totals, while they can profitably be compared with the Conference Board's estimate of approximately 13,500,000 unemployed in the early months of 1933, must be regarded only as rough approximations. Deduction should be made for persons employed on various types of Government emergency work, as already summarized, and for the large number who have become unemployable since the depression began. The American Federation of Labor's figures also indicate substantial diminution in the number of unemployed persons, the last available estimates showing between October, 1934 and October, 1935, that unemployment dropped by 969,000.

Industrial Group	November 1934	November 1935
Mining	423,000	444,000
Manufacturing and mechanical	3,995,000	2,884,000
Transportation	1,354,000	1,246,000
Trade	990,000	948,000
Domestic and personal service	1,063,000	988,000
Industry not specified	500,000	462,000
Other industries	296,000	296,000
All industries	8,621,000	7,268,000
Allowance for new workers since the 1930 census	1,588,000	1,909,000
Total unemployed	10,209,000	9,177,000

Trade Union Returns.—American Federation of Labor returns show the following rates of unemployment among union members:

	All trades	Building	Metal	Printing	Other
1929 (average)	12	25	7	4	8
1930 "	21	40	20	7	14
1931 "	26	52	39	13	17
1932 "	32	64	42	19	20
1933 "	31	67	43	22	22
1934 "	26	57	27	18	18
1935					
January	26	60	25	17	20
April	21	57	23	14	14
July	27	51	23	15	22
November	20	46	19	13	15

EFFORTS TO REDUCE OR RELIEVE UNEMPLOYMENT

Permanent changes in Federal policy toward unemployment, the most important reflection of which was the enactment of the Social Security Act of 1935, are summarized elsewhere in this volume, as is the story of the collapse under judicial disapproval of the NRA and its attempt to increase employment through its wage policies and limitations upon hours of work. From the viewpoint of direct relief efforts, the most important development during the year was the transfer of the unemployed from the relief rolls to the Works Progress Administration established under the Emergency Relief Appropriation Act of 1935. This act appropriated $4,880,000,000 to provide relief, work relief, and to increase employment by means of useful works projects. Of this sum, $880,000,000 was allotted to the Federal Emergency Relief Administration, and the remaining $4,000,000,000 was to be spent, prior to June 30, 1937, on works projects at the discretion and under the direction of the President. On May 6, the President by Executive order established the Works Progress Administration (headed by the Federal Emergency Relief Administrator), a Division of Applications and Information, and an Advisory Committee on Allotments, as machinery for carrying out the provisions of the act. Under agreement between the Public Works Administration and the Works Progress Administration, the latter handles primarily projects involving costs of $25,000 or less, while the larger projects are carried by the PWA.

The program of the Works Progress Administration is carried out through State directors. Shifting of workers from the relief rolls to employment on Works Progress Administration projects proceeded slowly until toward the last quarter of 1935. In September only 340,000 persons were employed on Works Progress Administration projects; in October nearly twice that number (632,000) were so employed, and, according to announcement of Director Hopkins, 2,678,629 individuals were at work on WPA projects on Dec. 9. Of the approximately 600,000 workers still employed on the work relief projects of the Federal Emergency Relief Administration in October (as contrasted to 1,410,513 in August), the majority had been transferred to Works Progress Administration projects and to Rural Rehabilitation work by the end of December. Final steps toward liquidation of the Federal Emergency Relief Administration, the organization and functions of which were described in THE AMERICAN YEAR BOOK for 1934, were taken late in November and in December. Announcement was made by the director on Nov. 29 that the 22 states not already cut off from direct Federal relief had received their last payments, and that care of unemployables had been turned back to the state and local governments. Between May, 1933 and December, 1935, the Federal Emergency Relief Administration spent $3,041,647,691.

MEDIATION AND ARBITRATION IN INDUSTRY

BY ISADOR LUBIN

COMMISSIONER OF LABOR STATISTICS, DEPARTMENT OF LABOR

MAJOR CHANGES

Three events during the year 1935 brought about major shifts in the field of arbitration and mediation of industrial disputes:—abandonment of the various labor boards created under the National Industrial Recovery Act, as the result of the Supreme Court decision on May 27; passage of the New National Labor Relations Act on July 5, the passage of the Bituminous Coal Conservation Act on Aug. 30.

NATIONAL LABOR RELATIONS BOARD

The first National Labor Relations Board was established July 9, 1934, in accordance with Title 1 of the National Industrial Recovery Act, succeeding the National Labor Board which had been in operation from August, 1933. The Board was authorized "to investigate issues, facts, practices and activities of employers and employees in any controversies arising under Section 7(a) . . . to order and conduct elections and, on its own initiative, to take steps to enforce its orders . . . , and upon request of the parties to a labor dispute, to act as a board of voluntary arbitration or to select a person or agency for voluntary arbitration." The Board had no power to enforce its decisions. If its findings or orders were not followed, the Board recommended to the NRA the removal of the Blue Eagle or turned over the case to the Attorney General for appropriate action.

During its 11 months' operation, the Board and its 17 Regional Boards conducted 154 elections to determine employee representatives. Of the 45,287 votes cast at these elections 58.5 per cent were for trade unions and 33.2 per cent were for company unions or employee representation plans. (8.3 per cent of the votes were for individuals with no affiliation, for losing unions in jurisdictional disputes, or votes not counted.) In addition to the elections, the Board rendered 202 decisions. In 39 of these, no violations of codes were found; in 158 cases violations were found and compliance required; five were arbitration cases. In 46 cases Blue Eagles were removed by action of the Board.

NEW NATIONAL LABOR RELATIONS ACT

On July 5, 1935, President Roosevelt signed an Act (Public No. 198, 74th Congress) designed to "diminish the causes of labor disputes burdening or obstructing interstate and foreign commerce," and shortly thereafter appointed a new National Labor Relations Board with quasi-judicial functions. This Act declares certain activities of employers "unfair labor practices" and gives the Board exclusive power to issue complaints and conduct hearings. The Board is granted the right to invoke the aid of the courts to compel compliance with its orders, and may petition any Circuit Court of Appeals for assistance in effecting orders. A person aggrieved by a final order of the Board may obtain a review in any Circuit Court of Appeals. The Board has power to issue subpoenas and require the attendance of witnesses. Violations of the authority of the Board are punishable by fine or imprisonment, or both. The Board is authorized to conduct elections, representatives selected by the majority vote to be the exclusive representatives of all. The Board is not authorized to engage in conciliation or mediation activities.

During the first four months, the Board and its regional offices accepted 41 cases. Five of these were petitions for elections from various local unions; the remainder were complaints filed by trade unions of unfair labor practices as indicated in Section 8 of the Act. The Board held a number of hearings but up to Dec. 1 no decisions had been rendered.

SPECIAL BOARDS UNDER THE NIRA

No less than 70 codes of fair competition made provisions for labor complaints committees or industrial relations boards. Only a few such boards, however, were actually established. In addition, labor boards for several industries were established by Executive Order. The most active of these were the Automobile Labor Board, the National Steel Labor Relations Board, and the Textile Labor Relations Board.

The Automobile Board was appointed by the President on March 25, 1934, as a part of the terms of settlement of a threatened strike in the automobile industry. This Board acted as conciliator and arbitrator in several strikes and threatened strikes, conducted elections for the choice of representatives for collective bargaining, established seniority rules for determining the order of lay-off and rehiring, and settled numerous individual grievances. Of the total number of votes cast in elections held in 63 automobile plants, 69 per cent were for unaffiliated representatives, 13 per cent for representatives of employees' associations, 9 per cent for A. F. of L. representatives, 4 per cent for representatives of the Associated Automobile Workers of America, and the remainder for representatives of miscellaneous organizations. The Automobile Board discontinued to function at the time of the NRA Supreme Court decision.

Forty-two cases were considered and acted upon by the National Steel Labor Relations Board from the time of its formation, June 28, 1934, until the end of the NRA. In the one election which was held, the A. F. of L. (American Federation of Labor) Union received the majority of the votes cast. Other elections were ordered by the Board but were appealed to the Circuit Court of Appeals by the employers. These cases were still pending when the NRA ended. The other cases handled by the Steel Board pertained to union recognition, alleged discrimination and breach of agreements with unions. After the NRA ceased, the Steel Board served as a mediator in nine cases of threatened strikes and various complaints of employment discrimination.

The Textile Labor Relations Board, created in September, 1934, as a result of the general textile strike, is composed of the same personnel as the Steel Board. Like the Steel Board, it continued to function as a mediation agency after the end of the NRA. During the first 12 months of its operation, the Board received 4,560 complaints, 1,166 of these being for alleged violation of hours and wage provisions of codes, 2,393 alleged violation of Section 7(a), 484 complaints regarding stretch-out or increased work loads, and 517 other special or general complaints. Four hundred and seventy-six of these cases were cancelled by reason of the NRA Supreme Court decision, and in 974 cases no violation of the code was found. The balance of the cases were adjusted or referred to other agencies.

The Petroleum Labor Policy Board was established in October, 1933, by the Secretary of the Interior, who was also Administrator for The Code of Fair Competition for the Petroleum Industry. The work of the Board was varied in nature and included action upon complaints of alleged violations of code wages and hours provisions and Section 7(a), interpretation of code provisions, handled requests for exemptions from labor provisions, measurement of the effects of the code on labor, and compliance and litigation cases.

From the date the Petroleum Board was organized to the end of May, 1935, it received 3,945 complaints alleging violation of code wages and hours provisions. Adjustments were made in 1,458 cases; 922 showed no violations; in 482 compliance was secured; 1,083 cases were pending at the time of the Court decision. The Board acted as conciliator in 35 strikes and threatened strikes, and as arbitrator in 12 cases. The Board dealt with 62 cases dealing with the question of employee representation, these cases involving 17,298 men. Eighty per cent of the certifications issued by the Board were for A. F. of L. affiliates, 18 per cent for employee representation plans, and two per cent for other organizations.

U. S. CONCILIATION SERVICE

When the Department of Labor was created in 1913, the Secretary of Labor was given the power "to act as mediator and to appoint commissioners of conciliation and labor disputes whenever in his judgment the interest of industrial peace may require it to be done." Since its inception, the Conciliation Service has negotiated an average of 700 labor disputes a year. During the fiscal year ended June 30, 1935, the Conciliation Service handled 1,007 cases. These included strikes, lockouts, threatened strikes, and other controversies between employers and employees throughout the United States. In some of these cases the Conciliation Service acted in conjunction with the various special labor boards with which it worked in close cooperation.

BITUMINOUS COAL CONSERVATION ACT

In August, 1935, Congress passed the Bituminous Coal Conservation Act (Public No. 402, 74th Congress, popularly called the Guffey Bill). This Act established a bi-partisan labor board, appointed by the President and assigned to the Department of Labor. The Board is empowered to adjudicate disputes relating to labor relations, and "to determine whether or not an organization of employees has been promoted, or is controlled or dominated by an employer in its organization, management, policy, or election of representatives." To determine the "freely chosen representatives of the employer," the Board may conduct elections. It may offer its services as mediator between a producer and its employees when a dispute "is not determined by the tribunal set up in a *bona fide* collective contract."

NATIONAL MEDIATION BOARD

The amended Railway Labor Act which created the National Mediation Board, approved in June, 1934, was the culmination of 45 years of experience with legislation to govern the relations of employers and employees on the railroads, as a means of preventing interruptions to interstate commerce. Three basic principles are laid down in the Act as the foundation of sound labor relations: (1) written agreements, (2) conference and conciliation for settling disputes, each party giving 30 days' notice of any desired change, (3) collective bargaining through labor organizations which must include at least a majority of the employees of the craft or class.

During its first year of operation, the Board disposed of 166 disputes involving more than 100,000 employees on 117 different railroads. Seventy of these cases required the Board's mediation services; 96 were representation cases, involving 273 certifications by the Board to determine the choice of representatives by the various crafts and classes of employees for purposes of collective bargaining. Of these 273 certifications, 239 went to national labor organizations, 31 to system associations or company unions, and three to local trade unions. In these disputes 65,623 employees participated in choosing representatives. The national labor organizations received a total of 47,511 votes or authorizations, the system associations received 17,741, and other organizations 371.

SETTLEMENT OF STRIKES

Previous to 1935, no complete record was kept of the various methods and agencies used in the settlement of strikes and lockouts. The Bureau of Labor Statistics is now getting information on the means used to settle every strike and lockout occurring in the United States. For the first six months of 1935, the records indicate that Government agencies, acting as mediators and arbitrators, effected settlements in 40% of the strikes and lockouts occurring; 31% were settled directly between representatives of trade unions and employers, with no help from Government agencies; 11% were settled directly between the employer and his employees, with no assistance from Government or trade union agents; 2% of the strikes were settled with the help of private or non-Governmental conciliators and arbitrators. In 16% of the strikes there was no formal settlement, the employer either closing down, or moving out of town.

XVI. LABOR AND LABOR LEGISLATION

CHILD LABOR

BY COURTENAY DINWIDDIE

GENERAL SECRETARY, NATIONAL CHILD LABOR COMMITTEE

EFFECT OF ENDING NRA CODE REGULATION

As a corollary of the United States Supreme Court decision in May, 1935 which declared the industrial codes unconstitutional, the child labor provisions of the codes became inoperative. So far as national safeguards for children were concerned, this put the country back where it was three years before. After such a bitter taste of the evils of child labor in 1932 and 1933 when children were working at starvation wages in sweatshops, followed by so revealing and refreshing an experience in freeing children under 16 from the major industries through the codes, it is of peculiar importance to find an answer to the question: "Are we about to hear again the tramping feet of thousands of children along the paths that lead to industry's doors?"

Among the first sources of information on returning child labor are the offices that issue work permits. Regular employment certificates granted to 14- and 15-year-old children in Maryland between June 1 and Oct. 31 numbered 154 in 1935 as compared with six in 1934. In Providence, Rhode Island, between June 1 and Dec. 31, regular employment certificates were issued to 266 children under 16 years of age in 1935 as compared with 40 children in 1934. From the North Carolina Department of Labor came a report that children under 16 were drifting back into factories and other industrial work as early as August; moreover, of 62 children certificated for factory work, 48 went into textile mills, for so long in the past a stronghold of child labor. In New York City during the last four months of 1935, work permits were granted to 5,229 children 14 and 15 years of age as compared with 1,405 in the corresponding months of 1934. At the same time the number of permits granted to minors 16 years of age in New York City decreased by more than 300, showing that the younger children were taking jobs which went to older boys and girls while the codes were in force.

Such straws in the wind, together with isolated cases of child labor abuses reported in the daily papers, show that a new struggle must be made to hold or regain the advanced positions which were briefly held under the codes, in protecting boys and girls from this ancient evil of child labor.

PROGRESS TOWARD PERMANENT CONTROL OF CHILD LABOR

It has been clear since prior to 1916, when the first Federal child labor law was passed, that comprehensive and permanent control of child labor will be accomplished only through uniform national standards. The severity of unemployment of adults during the depression illuminated the need for the proposed Child Labor Amendment and intensified the movement for its ratification in order to give authority for such uniform national control. The absurdity of allowing children, with their cheap labor, to be drafted into the labor market when millions of adults were unemployed, brought the striking advance of 14 ratifications during 1933. This was in notable contrast to the preceding eight years during which only six states had ratified the Amendment and the country was lulled into a sense of complacency about such matters.

During the winter and spring of 1934-35, ratifications were secured in four additional states—Idaho, Indiana, Utah, and Wyoming. It is noteworthy and encouraging that during the three years 1933 to 1935, a period of such unparalleled changes and such confusion of thought on the part of the average citizen, the legislatures of 18 states saw the real significance of the child labor evil, both from a humanitarian and economic standpoint, and sensed its relative importance so clearly as to ratify the Child Labor Amendment.

STATE CHILD LABOR LEGISLATION

During 1935 three states—Connecticut, New York and Pennsylvania—enacted laws raising the basic minimum age for employment from 14 to 16 years, with employment in manufacturing absolutely prohibited under 16, but with light work allowed outside of school hours for children of 14 years and over. In New York, however, the law does not become effective until September, 1936. In Pennsylvania, working hours, formerly 54 a week for children under 16, were reduced to 44 hours a week for minors under 18 years. Working hours for boys between 16 and 18 were reduced to 48 a week in New York factories and stores and in Connecticut factories, and the age under which work permits are required was raised to 18 years in Pennsylvania and New York. Connecticut and New York also strengthened their laws regulating industrial home work.

Texas increased the requirement for compulsory school attendance, formerly 100 days a year for children eight to 14 years of age, to 120 days a year for children seven to 16 years of age. Wisconsin, which two years previously adopted the 16-year age minimum for general employment, extended to 18 years the requirement for work permits and for full-time school attendance of unemployed minors.

Of the four states which had no workmen's compensation systems, two—Florida and South Carolina—enacted workmen's compensation laws during 1935. Under both, minors, whether legally or illegally employed, are entitled to the regular benefits of the law. Alabama created a separate Department of Labor, in which the former child labor division of the State Child Welfare Department functions as a bureau. Indiana amended its child labor law to make it apply to all minors employed in the state, whether residing there or not.

CHILD LABOR IN SUGAR BEET FIELDS

Up to the end of 1934, there had been little if any amelioration in the condition of child laborers in the sugar beet fields of the Middle West. But in November, 1934, the Secretary of Agriculture signed a contract containing a clause for the Sugar Beet Production Adjustment Contracts for 1935 and 1936 which bound producers not to employ or permit the employment of children under 14 years of age except members of his own immediate family, and limited the work of children between 14 and 16 years of age to eight hours a day. Some questions regarding the adequacy of this protection have been raised, especially whether the exemption of producers children is not being abused; whether enforcement by local committees lacking labor representation can be adequate, and whether the wage scale set up is not insufficient to compensate laborers for the loss of their children's services, thus inviting violations. The Federal Children's Bureau had investigators in the field during 1935 making first-hand observations and before long the facts should be known.

NEWSBOYS

The determined fight by the National Child Labor Committee and its allies for reasonable regulation of the use of boys in the sale and delivery of newspapers in any code that might be agreed upon for the newspaper industry was finally productive of results. From the initial position of the newspaper publishers that there should be no limitation on such work by boys or girls at any hour of the day or night except during school hours, a distinct advance was made. A majority of the publishers at a meeting in New York on May 28, 1935, agreed that for the *delivery* of newspapers the age limit should be 12, with those between 10 and 12 already so engaged in cities of 50,000 or less allowed to continue; that for the *sale* of newspapers no persons under 14 should be engaged except that those between 12 and 14 in cities of 50,000 population or less might be allowed to continue. In addition, restrictions as to the hours of employment outside of school were agreed upon together with a prohibition of sales by girls. This agreement was arrived at too late to be incorporated in a code because of the Schechter decision of the U. S. Supreme Court invalidating the NRA, which was announced practically at the same time. The moral effect of a vote of 647 publishers in favor of these standards compared with 139 against them, should, however, aid in the improvement of conditions for newspaper boys.

INDUSTRIAL HOME WORK

The farming out of industrial work to be done in the home has for generations been one of the most destructive forces in industry, drawing extensively upon child labor and driving down the wages of adults to meet the competition of whole families who work for pathetically low pay. Such work was by no means abolished under the industrial codes, even in the industries where its elimination was specified, due largely to the fact that adequate machinery for enforcement was not set up by the code authorities. Nor was its elimination or even restriction required in a number of industries in which home work is an important factor.

The results of an investigation of industrial home work under the codes carried on by the U. S. Department of Labor were made available in the fall of 1935. Seven widely scattered states, 24 industries, and 1,473 families were covered by the survey. Earnings were found to be extremely low, hours inhumanly long, and child labor still prevalent in the industries in which children can profitably be employed on home work. Industrial home work was reported by the Department to be carried on in some 77,000 homes scattered throughout the 48 states.

An investigation made by the Pennsylvania Department of Labor and Industry, which covered the period from June, 1934, to May 27, 1935, revealed that approximately 79 out of every 100 home work certificates issued were violated in one or more respects; about one-fourth of these involved infractions of the state child labor or woman's labor laws.

After the codes became ineffective there was even less restriction on home work and the attendant evil of child labor. A distinct trend was observed also toward building up an extensive home work business by mail, work being sent out from New York and elsewhere to many parts of the country.

NEW PUBLICATIONS

The American Child (published monthly). *Annual Report for the Year Ending September 30, 1935,* by Courtenay Dinwiddie, General Secretary. *Annual Summary of State Legislation, 1935* (mimeographed). *Handbook on the Federal Child Labor Amendment,* November, 1935. (National Child Labor Committee, New York, N. Y.)

A Study of Industrial Home Work in the Summer and Fall of 1934: A preliminary report to the National Recovery Administration. (U. S. Department of Labor, Washington.

"Child Labor in the United States, 1933, as Reflected by Employment Certificates Issued," *Monthly Labor Review,* 39: 1320-1331, December, 1934. Reprinted by the Children's Bureau. *Children Engaged in Newspaper and Magazine Selling and Delivering,* Bureau Publication No. 227, 1935. *State Compulsory School Attendance and Child Labor Standards Affecting the Employment of Minors,* revised 1935. (Children's Bureau, U. S. Department of Labor, Washington, D. C.)

Homework in the Connecticut Lace Industry, December, 1933. *Homework in the Fabricated Metal Industry in Connecticut,* September, 1934. *Hours and Earnings in Connecticut Shirt Factories, 1933 and 1934, Hours and Earnings in the Women's Dress Industry, 1933 and 1934.* (Minimum Wage Division, Connecticut Department of Labor, Hartford, Conn.)

Pennsylvania's Experience with Certificated Home Workers, 1935. *Industrial Home Work in Pennsylvania Under the NRA,* 1935. "The Quest for a Living Wage," *Pennsylvania Labor in the Depression,* pages 54-70, *Special Bulletin* No. 39. (Pennsylvania Department of Labor and Industry, Bureau of Women and Children, Harrisburg, Penn.)

Children and Young Persons under Labor Law. International Labor Office, Studies and Reports, Series 1, No. 3, 1935. (World Peace Foundation, New York, N. Y.)

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. for Labor Legislation, 131 E. 23rd St., New York City.

American Federation of Labor, A. F. of L. Building, 9th and Massachusetts Ave., N. W., Washington, D. C.

American Federation of Musicians, 1450 Broadway, New York City.

Conference for Progressive Labor Action, 128 E. 16th Street, New York City.

International Assn. of Garment Manufacturers, 395 Broadway, New York City.

International Assn. of Machinists, 265 W. 14th Street, New York City.

International Longshoremen's Assn., 265 W. 14th Street, New York City.

International Seamen's Union of America, 666 Lake Shore Drive, Chicago, Ill.

Junior Order of United American Mechanics, 3027 N. Broad St., Philadelphia, Pa.

League for Independent Political Action, 112 E. 19th Street, New York City.

League for Industrial Democracy, 112 E. 19th Street, New York City.

Marine Engineers' Assn., 157 Chambers St., New York City.

National Assn. of Letter Carriers, A. F. of L. Building, 9th and Massachusetts Ave., N. W., Washington, D. C.

National Civic Federation, 570 Lexington Ave., New York City.

National Federation of Post Office Clerks, A. F. of L. Building, 9th and Massachusetts Ave., N. W., Washington, D. C.

National Industrial Conference Board, 247 Park Ave., New York City.

National Industrial Council, 11 W. 42nd St., New York City.

Neptune Assn. of Masters and Mates of Ocean and Coastwise Steam Vessels, Inc., 80 Broad St., New York City.

Pilots' Association, 119 Broad St., New York City.

DIVISION XVII

RELIGION AND RELIGIOUS ORGANIZATIONS

PROTESTANT DENOMINATIONAL ACTIVITIES

BY HERMAN C. WEBER

EDITOR, *Yearbook of American Churches*

GENERAL

The undercurrent of revived interest in the place of the churches and their possible contributions to community and individual needs in 1935 continued to show itself and to gain considerable momentum. The difficult situation of the national churches in Germany, the atheistic regime in Russia and the appearance of some careful studies of the relations of church and state, brought home to the leaders of Protestantism the need for a careful appraisal of relationships in the United States between government and church leadership. President Roosevelt addressed a letter during the autumn to a long list of ministers in various religious bodies asking for reactions to the governmental policies having to do with social relations. This approach brought an avalanche of discussion and gave added sharpness to the concern of religious leaders for church-and-state situations that may arise in the immediate future.

Side by side with the visible growth of contemporary national evils, such as the gambling mania, the return of the saloon with its new fascination for and the support of the women of the nation, the increase in marital troubles, the sensational devotion of masses of the people to get-rich-quick schemes and the let-down of national ethics due to the badly-controlled ills of lavish governmental expenditures, there has developed a deeper earnestness in the attitude and plans of church leaders, a conspicuous intentness towards religion on the part of youth and a renewed emphasis on the supernatural in faith and in preaching.

PROGRAMS FOR VITALIZING RELIGIOUS ACTIVITIES

These undercurrents reach the surface in the outcropping programs of the especially widespread religious bodies. The Protestant Episcopal Church has developed a movement for the revitalizing of religion in the life of the individual communicant in that body. Under the chairmanship of the Bishop of Southern Ohio not only clergymen but writers of note, psychologists, religious educators and other specialists have cooperated in mapping out a challenge to the communicants and parishes of this Church. The Presbyterian Church, U. S. A., has developed an appraisal procedure which has made a profound impression in a few months on a large part of this influential body. It is designed to confront every member as well as all officers and leaders in the churches with a searching, intimate inquisition, for self-rating purposes only, which, it is hoped, will lead to a better understanding and better development of the responsibilities of Christian living.

The Congregational-Christian and

the Unitarian Churches have also sought appraisal methods by which individual congregations might be affected and challenged to better religious effort. A good deal of progress in the field of interdenominational cooperation is being registered as evidenced by the reception given to the Federal Council's plan for a nationwide preaching mission to be arranged for the autumn of 1936. For this effort outstanding preachers from Great Britain, India and China, as well as from the United States, are to be used and an attempt made to attract national attention through preaching to the value of religion in the contemporary scheme of things.

ECONOMIC RECOVERY OF THE CHURCHES

The churches as a whole registered a return from depression depths toward normal conditions during the year. Eighteen out of 22 bodies reported to the United Stewardship Council's annual meeting in December that they had in the aggregate received $4,805,495 more in contributions than they had reported for the years 1933-34. The total reported for this group, which included the larger Protestant bodies, was $264,713,831 in 1933-34 and had advanced to $269,519,326 for 1934-35.

The debt situation of the churches did not seem to be nearly so serious as some hysterical discussions had suggested it to be the year before. In 1926 the government religious census showed that the debts of the religious bodies of all kinds, Roman Catholic, Eastern Catholic, Jewish, Protestant and miscellaneous, were only 11 per cent of the assessed valuation, a very light load of debt.

From the bankers' point-of-view this index of solvency, plus the integrity of character for which religious organizations stand, would seem to make the loaning of money to church organizations of repute an excellent long-term investment. Creditors have been reaching this conclusion to a larger degree, and adjustments and amortizations have been more and more satisfactorily worked out. The churches which developed building plans just before the depression and were caught have been able to arrange for a chance with their creditors to reestablish their credit and complete their plans for satisfactory and just carrying of their obligations. The churches by and large have come through the depression, it will doubtless be made evident in time, better than any other business or social groups.

CHURCH MEMBERSHIP STATISTICS

Membership statistics are annually collected by the Rev. Geo. L. Kieffer, president of the Association of Statisticians of American Religious Bodies. They are published in the July issue of the *Christian Herald.* These statistics are the most authoritative available from year to year pending the governmental census which is decennial, the last having been taken in 1926. The tables have been recently improved by presenting memberships, first, as they are offered under the definition of members in vogue in each body and second, with the membership under 13 years eliminated and, therefore, a more comparable set of figures assured. The inclusion of baptized infants and of children as members varies greatly and their elimination removes a variable and difficult factor from comparative figures. The 1926 government census presented a list of percentages of membership under 13 years of age for each body and these have been applied by Dr. Kieffer in presenting his tables.

The great bulk of church and synagogue membership is found in exactly 50 well-known and wide-spread bodies. Some of these bodies are practically identical except for geographical distribution, as the Northern and Southern Baptist, the U. S. A. and the U. S. Presbyterian, one claiming national distribution and the other found only in the Southern states. The table given below covers this large group. Only 2.8 per cent of reported church members are found outside this group of bodies each of which reported at least 50,000 members. This small percentage, however, is divided into nearly 200 bodies, some of them very small indeed but some, of course, very important from the historical, social, or even theological view-point. But statistically they may be overlooked and the totals given for the larger bodies considered determinative for the study of trends or conditions in organized religion.

TABLE OF REPORTED CHURCH MEMBERSHIPS

(Protestant Larger Bodies Arranged in Order of Their Size)

Religious Body	Gross Membership	Net Membership (13 years of age and over)
Southern Baptist Convention	4,276,808	4,015,923
Methodist Episcopal Church	4,311,270	3,931,878
National Baptist Convention (col.)	3,653,452	3,342,909
Methodist Episcopal Church, South	2,719,635	2,431,354
Presbyterian, U. S. A.	1,931,694	1,844,754
Disciples of Christ	1,596,054	1,482,734
Northern Baptist Convention	1,471,120	1,407,862
Protestant Episcopal	1,898,549	1,401,129
United Lutheran	1,475,911	1,092,174
Synodical Lutheran Conference	1,460,052	1,018,040
American Lutheran Conference	1,414,120	1,005,315
Congregational-Christian	1,020,894	993,330
African Methodist Episcopal	650,000*	581,750*
African Methodist Episcopal Zion	590,625*	514,435*
Latter Day Saints (Mormons)	651,031	500,643
Presbyterian, U. S.	473,521	438,007
Churches of Christ	433,714*	433,714*
United Brethren	407,512	370,020
Evangelical Synod (see Note)	444,228	345,000
Reformed in the U. S. (see Note)	470,149	344,945
Colored Methodist Episcopal	371,436	333,178
American Baptist Association	263,484*	260,876*
Foursquare Gospel	250,000	212,423
Evangelical	232,860	212,418
Church of Christ, Scientist	202,098*	202,098*
Church of God in Christ	200,470*	190,470*
Methodist Protestant	192,177	178,532
United Presbyterian	179,654	171,390
Reformed in America	160,521	157,953
Brethren (Conservative Dunkers)	158,695	148,380
Seventh Day Adventists	143,359	143,359
Assemblies of God	158,908	142,540
Church of the Nazarene	119,907	113,672
Salvation Army	252,100	103,623
Primitive Baptist	103,125*	102,919*
Reorganized Latter Day Saints	96,289	90,500
Christian Reformed	116,414	78,929
Church of God (Anderson, Ind.)	82,208	78,509
Freewill Baptist	79,650*	78,227*
Orthodox Friends	86,889	72,552
Unitarians	66,352	65,688
Cumberland Presbyterians	67,431	63,722
Universalists	51,873	51,199
TOTAL 43 LARGER BODIES	34,986,239	30,749,073
Other Protestant and Misc. Bodies	1,404,698	1,258,756
Roman Catholic	20,398,509	14,646,129
Jewish Congregations (census rept.)	4,081,242*	2,930,332*
Russian Orthodox	526,000	377,142
Greek Orthodox	289,000	279,000
Polish National Catholic	150,000	103,500
Armenian	100,000	91,000
Serbian Orthodox	100,000*	75,000*
GRAND TOTALS: ORGANIZED RELIGION IN THE U. S.	62,035,688	60,509,932

* Old Reports.

NOTE: The Evangelical Synod and the Reformed Church in the U. S. merged in 1934. Their statistics have not yet been merged but will probably appear together in the next edition of the *Yearbook* under the new corporate name "The Evangelical and Reformed Church."

Newcomer in the list for 1935 is the Church of the Foursquare Gospel, centering in the Angelus Temple in Los Angeles. A canvass made for the purpose of the *Christian Herald* report brought to light for the Temple leaders a report of a membership of over 100,000. This body was therefore included in the table. Another body, representing an attempt to unite Eastern Orthodox groups into an American Greek body, disappears from the tables. The attempt was abortive and the membership reported last year appears in revised figures for a number of other Greek jurisdictions.

The membership gain as deduced from the *Christian Herald* tables by the editor was 1,223,064 in gross membership reported. This figure included children under 13. The net membership increase, excluding children under 13 years of age, was 910,651. This is a net gain in ''adult'' membership of 1.9 per cent, considerably greater than the population growth. There are doubtless some purely statistical increases in the tables but to offset these a number of bodies (starred*) are credited with old reports, some as far back as the census of 1926. The gains of these bodies are not included because they are not reported. The totals as given are, therefore, conservative as to reported membership and underestimate rather than overpresent the memberships in toto of organized religion in the United States. In addition to the regularly reported organized bodies are many independent congregations some of them with thousands of members scattered in the larger centres from coast to coast. These are not included in the tabulations.

The church years covered by the figures as presented are mostly for the calendar year 1934 with some church-years ending in January and March, 1935.

METHODIST BODIES

The three Methodist bodies, the Methodist Episcopal Church, the Methodist Episcopal Church, South, and the Methodist Protestant Church, progressed steadily during the year towards a planned union which will present an impressive membership, when consummated, of over 8,000,000 communicants, nearly 6,000,000 Sunday school enrollment and a constituency of over 30,000,000 people in the United States and in mission lands. The final plan of union was ratified at a meeting of the official representatives of all groups in Cincinnati early in the autumn and announced from Washington in December. The plan provides for the administration of the new body, to be called simply the Methodist Church, through a general conference to meet quadrennially, and six jurisdictional conferences in the United States to meet annually, and other central conferences outside the United States. The plan after publication must be approved by the general conferences of the three Churches involved. The first to meet will be the M. E. Church quadrennial general conference in 1936 and the conference of the Methodist Protestant Church in the same year. The Methodist Episcopal Church South, quadrennial conference meets in 1938. After the general conferences have acted the annual local conferences must ratify. The ultimate union, which church leaders at the moment believe assured, will take a number of years.

THE PRESBYTERIAN CHURCH, U. S. A.

This body met in Cincinnati, in its 147th annual session, on May 30, 1935. The Rev. J. A. Vance, DD., pastor of the First Church, Detroit was elected moderator. One of the important measures before the Assembly was a proposed merger of two of the four great boards of the Church, the Board of National Missions and the Board of Christian Education. A commission which had been appointed two years before brought in a detailed plan for the merger, proposing the change to eliminate duplication in educational and other work which had been criticized in certain areas of home mission work. Opposition developed, however, and after prolonged discussion the matter was referred for a year's study by the presbyteries and action postponed until the next

Assembly which was ordered to meet in Syracuse, N. Y. The troubles stirred up in every Assembly for a number of years by an aggressive group of fundamentalists and which led to the establishment of a dissident seminary and an independent board for foreign missions, resulted in the Assembly of 1934 in disciplinary action. It was expected that the 1935 Assembly would have a substantial group of fundamentalists and their sympathizers to move for the revision of the disciplinary action. The activities of the dissident group brought, however, an overwhelming condemnation from the Assembly whenever an opportunity came to vote. The discipline ordered for the action of presbyteries with dissident or disobedient pastors and elders in their membership proceeded steadily through the year and will come for final disposal to the Assembly of 1936. The only recourse left to dissenters seemed to be obedience or withdrawal from the denomination. The advanced social resolutions passed by the 1934 Assembly and criticized during the year by conservative elements in the Church were reaffirmed and overwhelmingly endorsed.

THE PRESBYTERIAN CHURCH, U. S.

The Southern Assembly met at Montreat, N.C., May 30-June 5. Rev. Henry H. Sweets, secretary of ministerial education and relief, was elected moderator. Efforts to adopt resolutions questioning the social order were defeated. On the other hand the committee on social and moral welfare was enlarged. An effort to bring the Church back into relationship with the Federal Council was decisively defeated. A move to meet a suggestion from the Presbyterian Church, U.S.A. for closer fellowship in over lapping areas was modified and sent back to the larger Church, delaying the proposed closer relations for some time. On the whole the denominational press felt that the Assembly had been very conservative.

THE CONGREGATIONAL-CHRISTIAN CHURCHES

There was no general council of this body in 1935, its biennial session having been held in 1934. An important repercussion from an action taken in 1934, at Oberlin, O., setting up a council for social action and endorsing resolutions for changes in the social order, was reported in the press in April. The corporation of the General Council, charged with the care and investment of endowment funds, raised the question of the influence of the resolutions calling for an abolition of the system under which the Church authorities were administrating trust funds. It was claimed that the resolutions aimed at the security of endowment funds. The debate on the issue, encouraged by resolutions of the General Council, continued during the year in local groups and churches throughout this body and will doubtless result in great interest in the meeting of the Council scheduled for 1936.

NORTHERN BAPTISTS

The convention of the Northern Baptists met in annual session at Colorado Springs, June 20, 1935. The Rev. James H. Franklin of Crozer Seminary, Chester, Pa., was elected president. The next convention was ordered to be held at St. Louis, Mo. in connection with a meeting of the Southern Baptists.

The Council on Finance and Promotion recommended that a "forward fund" be raised from May 1, 1935 to April 30, 1937, amounting to $500,000. An attempt to merge the women's missionary society begun at Rochester the year before, was decisively defeated. It was expected that the report of a commission on Christian Social Action would arouse a strong debate, but agreement on the resolution was arrived at and the recommendations of the Council were all agreed to. In December a letter from John D. Rockefeller, Jr., was made public which stated that he would henceforth make his religious contributions "to specific projects, chiefly interdenominational or non-denominational in character, which interpret the Christian task in the light of present-day needs and which are based not so much an denominational affiliation as on broad, forward-looking principles of cooperation.'' This was believed to indicate a still further withdrawal of the generous amounts contributed by Mr. Rockefeller to the budgets of the Northern Baptist Convention.

THE SOUTHERN BAPTIST CONVENTION

This group of Baptist churches, confined to the Southern states, met in Memphis, Tenn., with M. E. Dodd, of Shreveport, La., presiding. He resisted a third term in office which was offered, and President John R. Sampey, of the Southern Baptist Seminary at Louisville, Ky., was elected in his place. An endeavor to swing this conservative group of Baptists to the support of a bureau of social research was made by a group of younger men, and the proposal was saved from defeat and under the rules laid over for action in 1936. The convention committed itself to the support of the so-called Belmont plan, the enlistment of tithers for the support of the program of the churches after laymen, meeting before the convention, had enthusiastically discussed its value. A very favorable vote was registered in behalf of a proposal to have the 1936 session of the convention in St. Louis just before the session in the same city of the Northern Baptist Convention. A joint session of the two conventions was proposed for the day intervening between the official times. The heavy burden of debt of the agencies of the Convention was reduced by nearly $1,000,000. The Hundred Thousand Club, under the leadership of Frank Tripp of St. Joseph, Mo., reported the raising of $297,338 which had been used to reduce agency obligations.

CONGREGATIONAL AND CHRISTIAN CHURCHES

One of the chief projects of the Congregational and Christian Churches in America in 1935, was an official plebiscite of its membership on questions of war and peace. Following a period of debate and discussion on these questions, the vote was taken during the week preceding Armistice Day in November. Approximately 204,000 members from 2,550 churches voted, making it the most suggestive peace poll yet conducted in this country. The vote which shows a strong trend away from militaristic policies and war support, is analyzed and illustrated in the denomination's ''Social Action'' pamphlet for December, 1935. The Council for Social Action also issued during the year other pamphlets covering social questions, one by Charles A. Beard on *The Constitution and Social Issues*, by Harold Hatcher on *Within the Law*, story of the Insull empire, and others. A study of church attendance engineered by Roger W. Babson as chairman of a committee of the national Council, proceeded during the year, and a report on it will probably be forthcoming at the 1936 meeting of the National Council.

LUTHERANS

Numerically and financially, Lutherans in America record a consistent advance. There were 11,996 ministers, 16,646 congregations and 4,624,134 baptized members reported, an increase of 104,208 for the year in the United States and Canada. Congregational expenses amounted to $32,044,644, an increase of $1,569,504 over the previous year. Benevolence contributions also exceeded those of the year before by $265,721, for a total of $7,347,557.

Spiritually there was a general and wholesome revival, finding concrete expression in an emphasis on and extension of parish education, personal and family devotions, stewardship and systematic Bible study.

Relationships among Lutherans looking toward cooperation and unity were furthered by the appointment of special commissions by the United Lutheran and the American Lutheran Churches. The Missouri Synod also authorized the appointment of such a commission at its triennial meeting in 1935.

The Augustana Synod celebrated the 75th anniversary of its organization in connection with its annual meeting at Rock Island, Ill.

Evangelization and home and foreign missions made definite progress under the direction of the respective boards as a result of systematic and coordinated efforts. A new foreign field was opened by the Missouri Synod in Nigeria, Africa. Ten missionaries were to be sent into this field soon.

In the field of Christian higher education a special study of college curriculums in relation to present day life is being carried on. Under the auspices of the Committee on Higher Education of the American Lutheran Conference, a Lutheran Education Seminar was conducted at the University of Minnesota during the summer of 1935. This was followed by a conference of Lutheran College and Seminary teachers at St. Olaf College, Northfield, Minn., at which most of the Lutheran colleges of the Middlewest were represented. Following a policy of concentration, the American Lutheran Church opened Wartburg College at Waverly, Ia. in September, 1935, the institution being a consolidation of four schools formerly located in Iowa, Minnesota and South Dakota.

To evaluate the significance and scope of Lutheran welfare and charitable work the National Lutheran Council is completing a fact-finding survey of all agencies, institutions and organizations engaged in this service under Lutheran auspices. Through its News Bureau, the National Council conducted special conferences in Baltimore, Columbus, Chicago and Minneapolis in the interest of more adequate publicity.

THE DISCIPLES OF CHRIST

The second quinquennial world convention was held in Leicester, England, Aug. 7-12, 1935. The Rev. John Wycliffe Black of Leicester, England, presided. A new president was elected. George Stewart of Winnipeg, Manitoba, Can., a layman. A considerable delegation from the United States attended this world convention which was largely inspirational in design

STATISTICS OF GIVING

(Religious Bodies reporting to the United Stewardship Council, December, 1935)

Religious Body	Year Ending	Benevolences	Cong. Exp.	Total	Previous Year
Baptist, Northern	Apr. 30, '35	$ 2,355,858	$14,423,290	$16,779,148	$17,901,232
Baptist, Southern	Apr. 30, '35	4,251,668	20,401,608	24,653,276	23,289,361
Brethren, Church of the	Feb. 28, '35	365,376	1,000,000	1,365,376	923,847
Brethren, United	Oct. 1, '35	785,581	3,609,181	4,394,762	4,111,938
Congregational and Christian	Dec. 31, '34	2,114,577	13,305,260	15,419,837	16,232,283
Disciples	June 30, '35	2,018,415	8,727,830	10,746,245	10,384,841
Episcopal, Protestant	Dec. 31, '34	3,441,989	27,134,440	30,576,429	30,417,501
Evangelical Synod, N. A.*	Jan. 31, '35	525,511	3,310,817	3,836,340	3,916,179
Lutheran Church, United	Dec. 31, '34	2,208,544	11,626,185	13,834,729	12,075,564
Lutheran Conference, American	Dec. 31, '34	2,232,367	9,860,727	12,093,094	11,971,394
Lutheran Conference, Synodical	Dec. 31, '34	2,752,126	9,974,492	12,726,618	11,764,799
Methodist Episcopal	May 31, '34	6,963,367	45,560,265	52,523,632	53,757,950
Methodist Episcopal, South	Dec. 31, '34	6,838,137	18,695,683	25,533,820	24,073,749
Nazarene, Church of the	Dec. 31, '34	505,772	2,489,800	2,995,572	2,355,352
Presbyterian, United	Mar. 31, '35	1,287,655	2,579,253	3,866,908	3,686,546
Presbyterian, U. S.	Mar. 31, '35	2,459,710	6,626,358	9,086,068	8,397,798
Presbyterian, U. S. A.	Mar. 31, '35	6,469,401	29,186,135	35,655,536	35,407,806
Reformed in America	Apr. 30, '35	621,401	2,814,040	3,435,341	3,439,944
Reformed in U. S.*	Dec. 31, '34	831,072	3,568,769	4,399,842	4,357,307
		$49,028,527	$234,894,133	$283,922,573	$278,465,391

*This section of the Protestant body enrolls 23,973,882 members. Their total benevolences were $49,000,000 and their congregational expenses $234,000,000. Their total giving for all purposes was reported to be $283,922,573, an increase over the preceding year of $5,457,182.

and program. The annual convention of the Disciples in the United States was held at San Antonio, Tex., Oct. 15-20. The Rev. D. W. Morehouse presided. The Rev. L. M. D. Wells, Dallas, Tex., was chosen as the new president. There was little important business transacted. A comprehensive plan for unified promotion was presented and adopted by the convention.

INTERDENOMINATIONAL ACTIVITIES

BY PRESTON KING SHELDON

EDITOR AND WRITER

INTERFAITH PRONOUNCEMENTS

The first biennial meeting of the Federal Council of the Churches of Christ in America held Dec. 4-7, 1934 at Dayton, O., disclosed the reaching of a point in spiritual insight and unity regarded as the most effective ever experienced in the history of efforts at interdenominational cooperation. The Council previously had held its meetings once every four years. By 1935 pronouncements on public policies in the name of interfaith groups were becoming unusually numerous and in many cases were having a decided effect on the conduct of national and international affairs. The subjects under debate included opinions on the New Deal in the Government of the United States; on American participation in the Olympic Games scheduled for 1936 in Berlin; the war between Italy and Ethiopia; our naval manœuvers in the Pacific and their possible effect on Japanese-American relations, religious persecution in Mexico and others. It is doubtful if any year in the world's history brought forth a wider variety of political, industrial and religious issues.

The weight of the opinions of religious leaders on public questions was measured not only by opposition aroused but by possibilities of greater achievement which they considered might be made toward a reconstructed social order. Ecclesiastical nostrums as well as political palliatives were beginning by a gradual process to be discountenanced. The tendency, which more than anything else was apparent all through the year, was a surging up of character developing trends actuated in the minds of leaders in many phases of public life. An opportunity was seen for the working out of a new means of applying spiritual influences in family and community life through the holding of conferences of Protestant, Catholic and Jewish leaders with educators from institutions not under ecclesiastical control. Underlying the purposes was an expressed determination to arrive at a means of doing away with war, crime, economic insecurity, race and class hatreds and to substitute international arbitration, moral uprightness, social justice and mutual understanding.

RELIGIOUS IDEALS IN NON-ECCLESIASTICAL GROUPS

Under the joint auspices of the International Council of Religious Education, the Home Missions Council and the Federal Council of the Churches of Christ in America, an experiment carried on by J. Robert Hargreaves, had revealed by the beginning of 1935 the existence in public school and other non-ecclesiastical activities of an adherence to religious ideals. Constructive work in character development long advocated from pulpits was also found taking hold in juvenile courts. Mr. Hargreaves reported in January in the *Federal Council Bulletin* on the first cooperative gatherings and what had been done.

''Religion in the first place inspired the creation of these groups,'' Mr. Hargreaves said, ''and it is the duty of our religious leaders to find a technique for their further inspiration. This has been done in several places.'' His report told of the bringing together of about 20 groups in South Dakota at the first state conference of executives of organizations having as their objectives the moral welfare of adolescents. Among those attending were representatives of the State Agricultural Extension Service, normal schools, public schools and churches. A state seminar was held in Minnesota, at which it was revealed that specialized agencies outside the Church were ready to cooperate with religious leaders. Subsequently six county meetings were held under the auspices of clubs, schools and churches. Ministers were invited to attend. These organizations were found to be working toward similar goals.

In Chicago a "venture in understanding" was being carried forward with the help of public school and church leaders under an arrangement between the municipal Department of Education and the Church Federation in that city. In Nebraska also a cooperative program of character training was begun. The State Department of Education and the Department of Sociology of the State Agricultural College of Michigan were at work on character education programs. Meetings were held in one instance in public schools at which a county's non-ecclesiastical group leaders were asked to explain their program and make suggestions as to how the Church and parents could be of help.

FEDERAL COUNCIL OF CHURCHES

When the executive committee of the Federal Council of the Churches of Christ in America met early in January, 1935 to choose chairmen for its departments and committees, it issued resolutions favoring the setting up with strengthened authority of impartial national and regional labor boards and of extending their jurisdiction to include employed labor in large-scale agriculture. This action followed a study of the conditions of migrant workers in Imperial Valley, California and in the onion fields of Ohio, by the Rev. James Myers, Industrial Secretary of the Council. His report stated a belief that the underlying causes of labor disturbances reported in the two areas were "deep in general economic conditions and that many owners and grower-shippers are themselves struggling with desperate problems, including actual or threatened bankruptcy due to lack of markets, which in turn is due to lack of purchasing power by the masses."

The Council named the following officials: Field Department, Dr. H. Paul Douglass, chairman; Evangelism, Dr. William Hiram Foulkes, chairman; Dr. W. S. Abernethy, vice-chairman, the latter succeeding Dr. Foulkes, who resigned in April; Social Service, Dr. Albert E. Day, chairman; Right Rev. Charles K. Gilbert, Suffragan Bishop, Protestant Episcopal Diocese of New York, vice-chairman; International Justice and Goodwill, Mary E. Woolley, chairman; Alanson B. Houghton and Dr. James H. Franklin, vice-chairmen; Race Relations, Dr. W. H. Jernagin, chairman; Mrs. Lucius R. Eastman, vice-chairman; Radio, Dr. Theodore F. Savage, chairman; Research and Education, Prof. William Adams Brown, chairman; Prof. Herbert N. Shenton, vice-chairman; Relations with Churches Abroad, Dr. S. Parkes Cadman, chairman; J. Ross Stevenson, vice-chairman; Committee on Worship, Bishop Wilbur P. Thirkield of the Methodist Episcopal Church, chairman, and Committee on Financial and Fiduciary Matters, George A. Huggins, chairman.

WORLD PEACE

Young People's Conferences.—National participation in interdenominational peace programs by young people in 1935 was started in groups organized by the International Council of Religious Education and by the World's Christian Endeavor Union. The former sponsored conferences in 27 cities at which the chief emphasis was upon a slogan, "Christian Youth Building a New World." This was adopted by the Christian Youth Council of North America. The latter organization was formed in 1926 under the sponsorship of the International Council. The total registrations at the 27 city conferences were 12,575. The cities in which they were held included Cincinnati, Baltimore, Boston, New York, Philadelphia, Washington, Nashville, Chicago, Des Moines, Minneapolis, Seattle, Portland, Ore. and Los Angeles. Four regional conferences were also held in Illinois. The program was defined as presenting one Gospel in which individual and social spiritual needs were blended. As a result of these conferences the delegates in their home churches were busy the rest of the year conducting union meetings for members of churches of differing Protestant faiths at which current problems affecting religious progress in social and economic life were informally discussed by groups arranged for young people. Findings of the larger groups were reported to the smaller in which discussions were continued with a view of reporting their own findings in turn to additional national gatherings in 1936.

Conference Themes.—Nine themes were used in the twenty-seven young people's interdenominational conferences. They were: 1. Developing a Program of Personal Religious Living. 2. Helping Other Young People to be Christian. 3. Assisting in Bringing about World Peace. 4. Working to Help Solve the Liquor Problem. 5. Helping Build a Christian Economic Order. 6. Providing a Constructive Use of Leisure Time. 7. Being Christian with other Racial and Cultural Groups. 8. Preparing for Marriage and Home Life. 9. Developing a Christian Type of Patriotism.

Plans for 1936.—Included among the speakers at the winter and spring conferences of the larger groups were denominational and interdenominational leaders whose number included speakers from the Department of Evangelism of the Federal Council of the Churches of Christ in America. A committee of representatives of Protestant religious bodies, meeting in Pittsburg, Pa., in June, sounded out the convictions of these leaders on current problems and worked on plans for the 1936 meetings. A selected group of young people attended the sessions along with representatives of the Federal Council, the Missionary Education Movement, the International Society of Christian Endeavor (which is confined to Canada and the United States), the Young Men's and Young Women's Christian Associations and similar organizations.

Peace Demonstrations.—Peace programs for young people were carried out in meetings over the Armistice Day week-end held under church auspices. Parades were held in many communities on Saturday, Nov. 9. Two of the largest demonstrations of young people and adults in the interest of international cooperation were held during the year at Philadelphia and New York. More than 10,000 marchers took part in May at New York in a peace parade, while at Philadelphia in July there were about 50,000 in line. The latter was composed of delegates attending sessions of the International Christian Endeavor Convention at which there was launched a World Peace Fellowship as the peace department of the World's Christian Endeavor Union. Ernest R. Bryan, educational secretary of the World Peace Foundation, was chosen executive secretary and Dr. Daniel A. Poling, president of the Union, became president also of the peace department.

World Appeal to Pray for Peace.—In April the Federal Council sent out an appeal to the Christian people of all nations to pray in succeeding months for peace, furnishing suggested phraseology of prayers to be used. The churches were urged to stress this appeal on Palm Sunday and pray for peace in every public service "as long as the threat of war remains." Joining in the appeal were high officials of American church groups. They were Dr. Ivan Lee Holt, president of the council; Dr. S. Parkes Cadman, chairman of the American Section of the Universal Christian Council; Dr. William P. Merrill, president of the World Alliance for International Friendship through the churches and Dr. John R. Mott, Chairman of the International Missionary Council. The appeal went to the following religious bodies: the Evangelical Free Church

Council of Great Britain; the Church of England; the French Protestant Federation; the German Evangelical Church; the Confessional Synod in Germany, composed of pastors opposing the Nazi regime; the synod of the Waldensian Churches in Italy; the National Christian Council of Japan and the National Christian Council of China. Three prominent Jews collaborated in the appeal for continued prayers for peace by designating Passover day for making the initial announcement from pulpits. They were Rabbi Samuel H. Goldenson, President of the Central Conference of American Rabbis; Rabbi George Zepin, secretary of the Union of American Hebrew Congregations and William Weiss, president of the Union of Orthodox Jewish Congregations in America.

GERMANY

Olympic Games.—All through the year adult groups were studying political upheavals in Russia, Germany, Ethiopia and Mexico and issuing statements of conviction as to a need for increased emphasis on attempts at amicable settlement of racial and international disputes. The most outstanding specific evidence of constructive effort to avoid international misunderstanding was the expressed opposition of Protestant leaders to participation of American athletes in the 1936 Olympic games scheduled to be held in Germany. Continued restrictions of religious freedom in Germany were viewed as sufficient justification for asking the Amateur Athletic Union of the United States to withdraw their entries. At a general convention of the union in New York, in December, however, an anti-Olympian bloc in the union, after lengthy speeches had been made, withdrew a proposal to place the union on record as opposed to the games. A proposal that a committee of three be named to visit Germany on a tour of investigation was also lost. Without dissent, however, the union by a *viva voce* vote, approved a resolution that the Union's certification of athletes was not to be interpreted as an endorsement of the Nazi government.

The Basic Issue.—The breaking up of Jewish athletic organizations by Nazis in Germany was viewed as a commitment of the German Government to ''a narrow racialism as the basis of the national life'' of that country. This was the ground upon which the protest was based. The object of religious leaders in the United States in opposing entry of our athletes in the Olympics was to avoid possible misinterpretations of Nazi government policies and our attitude toward them. Dr. Samuel McCrea Cavert, general secretary of the Federal Council of the Churches of Christ in America, on returning from Germany in the fall, advocated the banning of entries of athletes from the United States. His appeal was contained in a signed article published in *The New York Times*. It was based on a feeling that casual visitors in a foreign country do not penetrate with thoughtful care beyond surface appearances yet give voice to opinions at home and abroad having the force of convictions but no foundation in fact. A total of 138 Protestant ministers signed a statement in November opposing our participation. Dr. Charles S. Macfarland, general secretary emeritus of the Federal Council of the Churches of Christ in America, warned in a radio address against a danger that the American Olympic Committee might be understood as assenting to race discrimination if they certified entries of our athletes.

RELIGIOUS LIBERTY IN MEXICO

A refusal in November by President Roosevelt to countenance an investigation of religious persecutions in Mexico by our Government climaxed a move in that direction instigated by the Knights of Columbus and carried to the Senate by Senator Borah in a resolution introduced early in the year which was referred to the Senate Foreign Relations Committee. This was opposed at the beginning by the President, by Secretary of State Cordell Hull, the executive committee of the Board of Foreign Missions of the Methodist Episcopal Church and by the Executive Committee of the Federal

Council of the Churches of Christ in America. The National Council of the Protestant Episcopal Church also declined to add its voice to a demand for an investigation.

Behind this action of the Knights of Columbus was a belief that diplomatic contacts between the emissaries of the two governments might give an impression that the policies of the Mexican government were approved in the United States. This was a repercussion of a similar fear voiced generally by Roman Catholics in 1933 when our Government formally recognized the Government of the Union of Soviet Socialist Republics in Russia. Contrary to popular belief, created largely by poor newspaper reporting however, the Roman Catholics were not calling for an intervention but declaring that in carrying out its past policies toward Mexico the United States Government ''unwittingly'' had supported anti-Catholic and radical leaders. The recall of Josephus Daniels, ambassador to Mexico, was urged at many public meetings by Roman Catholics and in a debate in Congress on Feb. 8 was demanded by Representative Connery of Massachusetts. A renewed attempt against Ambassador Daniels was expected to be made in January, 1936. In brief, Catholics in the United States took offense at many of the ambassador's utterances in public in Mexico which were considered too outspoken and not genuinely expressive of American public opinion. Martin H. Carmody, Supreme Knight of the K. of C., headed a delegation of this fraternal order in January, 1935, visiting Secretary of State Hull in Washington and Senator Pittman, chairman of the Senate Foreign Relations Committee and other senators, in an effort to have our Government issue a threat to Mexico that diplomatic relations would be severed if persecution of Catholics in Mexico did not cease. On this occasion the starting of an investigation was also proposed. A second delegation called on President Roosevelt in July. In the same month a petition calling for an inquiry was signed by 242 members of the House of Representatives and presented to the President. Along with this petition a memorandum was submitted stating that the majority of the signers were Jews or Protestants and making clear the committee acting in behalf of the signers was ''unalterably opposed to any semblance of interference or intervention in Mexico.'' The President replied in a memorandum for newspapermen stating he was ''in entire sympathy with all people who make it clear that the American people and the Government believe in freedom of religious worship, not only in the United States but also in other nations.'' This was substantially his attitude in November when he wrote to Mr. Carmody declining to instigate an inquiry. There had been involved no complaints of United States citizens charging restraints on their religious worship in Mexico.

Acting in conformity with a policy developed painstakingly over a quarter of a century, the executive committee of the Federal Council of the Churches of Christ in America in its statement of opposition to an inquiry in Mexico, with the Borah resolution in mind, said such action would be looked upon by them ''as an unwarranted interference in the internal affairs of another nation.'' Its resolution stated: ''In the absence of sufficient authentic and unbiased information, we do not undertake at this time to pass judgment on various aspects of the controversy between the Mexican Government and the Church. On two points, however, our convictions are clear: 1. We take a vigorous stand in support of religious liberty for all groups, both in Mexico and in every other part of the world. We would be untrue to the genius and spirit of Protestantism were we to do otherwise. If the Mexican or any other government fails to recognize the right to full freedom for the worship of God and for religious teaching, it will forfeit the respect of all who understand the indispensable place of religion in both personal and national life. 2. We record our strong opposition to the resolution introduced into the United States Senate calling for an inquiry by the American Government into the religious controversy in Mexico.'' The latter point was hinged upon a belief "it would have no value for the safeguarding of religious liberty and would jeopardize our friendly relations with Latin-American countries. Moreover," the statement continued, "the proposed measure ignores the grave denials of religious liberty existing in other nations which are equally subject to investigation."

In September a report covering conditions in Mexico was issued by the American Committee on Religious Rights and Minorities, which had been studying like situations in Russia, Germany and Rumania. The committee worked with a belief "that the most effective way to deal with a situation of this kind is through the operation of an informed and enlightened public opinion." It made an appeal to the Mexican Government and the people of that country and of the United States and other countries to circulate and study its September report on Mexico "to aid in the development of a public sentiment which the Government of Mexico cannot ignore without forfeiting the respect of the civilized world." The committee invited the cooperation of the Committee on Minorities of the International Federation of the League of Nations' Societies and similar committees of organizations in Europe.

AMERICAN-JAPANESE RELATIONS

Considerable concern was felt throughout the United States over our naval maneuvers in the Pacific Ocean from May 3 to June 10 and what effect they might have on future relations with Japan. Opposition was expressed in the name of the Federal Council of Churches to further increases in our navy and to the manoeuvers in a statement adopted March 1 by its executive committee which declared a conviction they "cannot but arouse the suspicion and ill will of Japan." Another threat to friendly relations between the two countries was seen in "the enlargement of the so-called 'defense' programs of these two countries." The committee recommended:

"First: That the United States make clear to the people of our own and other lands that our so-called 'Open Door' policy is not to be interpreted as meaning that the military and naval forces are to be employed for the protection of American investments in the Far East.

"Second: That the naval manoeuvers scheduled to be held in the Pacific be transferred to other waters and to a place where they cannot possibly be regarded as a threat to Japan.

"Third: That naval negotiations be continued between the principal maritime powers looking toward the total abolition of such offensive weapons as battleships, aircraft carriers and bombing planes, together with a drastic reduction in the tonnages of all other categories of naval craft.

"Fourth: That pending the negotiation of such an agreement the United States adopt a policy of moderation with respect to the construction of the naval vessels authorized under the Vinson Naval Bill, and that the projected budgets for the Army and Navy be substantially curtailed.

"We believe," the statement went on, "that were the government to base its foreign policy with the Far East upon the principles broadly outlined in these recommendations, the prospects for peace in the Pacific would be considerably enhanced."

The statement was placed in the hands of President Roosevelt in person by Dr. Walter W. Van Kirk, Secretary of the Federal Council's Department of International Justice and Goodwill and Dr. James H. Franklin, vice-chairman of the department. They left with him a memorandum, which in part said:

"You have laid down what you have happily called a 'Good Neighbor' policy with respect to American relations with the nations of the Western Hemisphere. We of the churches have construed this policy to mean that in this particular area the protection of foreign investments will be sought only by diplomatic and non-military means. We have applauded you for your statesmanship in this matter. It is our earnest desire that you extend this 'Good Neighbor' policy to include our relations with all other nations and more particularly at this juncture with the nations of the Far East. We believe that were you publicly to announce that under no circumstances would the armed forces of the United States be employed to protect the financial interest of American nationals in the Far East, the prospects for peace would be enhanced.

"A war with Japan, stripped of all diplomatic verbiage, would be a war to protect American financial interests and American trade in the Far East. The protection of these interests is not worth a war in the Far East."

Copies of the statement of March 1 were also sent to the Secretary of State and the Secretary of the Navy.

About 800 persons attended a service at Riverside Church, New York City, the night of May 2, held in a vain protest against the naval manoeuvers in Pacific waters which were held according to schedule starting the next day. There were 240 ministers of Protestant and Jewish faiths present who pledged themselves to renounce war. A total of 198 church leaders had also appealed in March to President Roosevelt to protest the holding of the manoeuvers, through a statement circulated by the department of international justice and goodwill of the Federal Council of Churches.

An open letter from 300 religious leaders to the Japanese was published in Japan the day the naval manoeuvers started, which said in part: "We desire to convey to you the knowledge that many thousands of our citizens, especially those who constitute the membership of our churches and synagogues, have protested against the holding of these manoeuvers. . . . In the spirit of equality and brotherhood we therefore ask you to unite with us in redoubling our efforts to maintain our historic friendship and in opposing every effort that is likely to lead to mistrust between our peoples." This letter was sent under the auspices of the Fellowship of Reconciliation. Another open letter was sent to this country by American religious leaders in Japan advocating a reversal of many American policies in the Pacific.

ANNUAL MEETING OF WORLD ALLIANCE

The World Alliance for International Friendship Through the Churches held its 20th annual meeting on Armistice Day at the Roosevelt Hotel, New York City. This was preceded by more than 100 community meetings to arouse public interest in peace. These were held in every State and territory in the Union. On Sunday, Nov. 10, Dr. S. Parkes Cadman in a radio address over a national hook-up described the work of the alliance. Major General John F. O'Ryan presided at luncheon at the Armistice Day meeting. At one of the sessions Linley V. Gordon, Extension Secretary of the Alliance, said: "Three facts stand out clearly in the matter of armaments: First: Armament building has been prodigiously accelerated during the year. Second: There is no general disposition on the part of peoples or governments to halt. There is, however, a general moral enervation towards the whole business. Millions just do not seem to care. Third: There is no general fear of what the crime of competitive armaments may lead to, namely the crime of war and with war the crash of empires and republics."

Dr. Henry A. Atkinson, general secretary, reviewed the annual meeting of the International Committee of the Alliance held in Switzerland in August, at which was drawn up a comprehensive appeal to the churches of all countries to work for peace. This constituted the Alliance's annual report of its committee on Message and Recommendations and was sent out in November. President Roosevelt was commended for adopting a neutral stand in the Italo-Ethiopian conflict. His stand was also commended by officials of 25 Protestant denominations in a separate statement. The Alliance also urged Congress to extend the scope of enabling legislation to cover "all potential war materials."

The League of Nations was likewise commended for the degree of unanimity reached in condemning the Italian invasion in Abyssinia. Aside from a new emphasis on general peace principles the statement's most pointed conclusion was that "the Italian-Ethiopian conflict throws in strong light the injustice and grievous wrongs that have been practiced by the white nations against the black, the brown, and the yellow races of the world. Italy in Ethiopia is doing what the other nations have done. Her attack upon the last really independent nation in all Africa culminates a long and ugly record of modern history." It also urged "the elimination of compulsory military training from tax-supported schools and colleges except definitely military schools."

The American Council of the Alliance in March sent out a statement to religious leaders.

"We believe it is time when, from many sources, the united influence of the religious world should be focused on the governments of the nations in whose hands rests the immediate question of peace or war in Europe," it said, giving as the objectives of its appeal that the Alliance sought to arouse, organize and apply the Christian conscience of the world to the rearmament crisis of today; to end the armament race; to curb munitions profits; to prevent another world war; to lift the military burden from taxpayers; to re-convene immediately the World Disarmament Conference at Geneva, in the interests of genuine disarmament, and through an imperative mandate to the Disarmament Conference to disarm the nations *in accordance with the following:*

1. President Wilson's proposal in 1919 to reduce all national armaments to the minimum requisite to the maintenance of domestic law and order.
2. The reduction of the armed forces of Germany and its allies, by the five treaties of 1919, to the minimum strength and for the sole purpose of maintaining law and order *within* those nations.
3. The pledge made by Great Britain and France to Germany in the Treaty of Versailles, and by the United States in its separate treaty—a pledge repeated in the other four treaties of 1919—that the disarmament of Germany and its allies was for the express purpose of enabling the victors in the world war to disarm.
4. The renewal and emphasizing of this pledge by Clemenceau on behalf of the victors in his note to the German delegates who signed the Versailles Treaty.
5. The Kellogg-Briand Pact which denounced and renounced war as an instrument of national policy and pledged all the nations to use henceforth *only* peaceful means of settling their disputes; and
6. The proposal of President Roosevelt that the nations shall pledge one another to prevent their national armed forces from crossing national frontiers.

NATIONAL PEACE CONFERENCE ON NEUTRALITY ISSUE

After an existence as a temporary body for three years the National Peace Conference was organized in December as a permanent group representative of 29 peace organizations. Delegates met at a three-day conference at Rye, N. Y. Dr. Walter W. Van Kirk, secretary of the Department of International Justice and Goodwill of the Federal Council of the Churches of Christ in America, was named director. Membership was granted also to delegates from the Foreign Policy Association, which as a research group became allied with the new body on a consultative basis. The objectives included the launching of a nation-wide radio program of peace education; sponsorship of public mass meetings and preparation of recommendations on peace action for ratification by member organizations. Representation of each body at meetings of the larger group was limited to two delegates. The organizations represented were composed largely of peace-workers having church or social welfare organization affiliations or both.

In accordance with their purposes, the National Peace Conference submitted to the member organizations for ratification immediately following the December meeting, a draft of a new Neutrality Act based on legislation passed by Congress in August and signed by President Roosevelt which placed an embargo on arms to countries at war and laid down other rules of national conduct in case of war, aimed at rigid adherence to a policy of neutrality on the part of the United States. The original Act was designed to be in force until the end of February, 1936. It was expected the next Congress would by that time have drafted and passed a substitute covering a wider field in its embargo provisions. The plan of the National Peace Conference was to bring to the attention of Congress the conclusions of peace organizations on all points covered in the original Act and their suggestions for revision of it.

The re-draft of the National Peace Conference began with the assumption of an existing ''uncertainty as to the rights and duties of neutrals in general'' and particularly of parties to the Pact of Paris ''in case one or more of them resort to force in violation thereof.'' As a means of clarifying international understanding on what constitutes neutrality, the proposed revision called for a ''supplementary treaty relative to such rights and duties.'' It favored renewal of embargo powers on arms already given the President of the United States and an extension of those powers to cover other articles and also credits, making all embargoes equally applicable to all belligerent nations. With the exception of one paragraph to give power to the President with the consent of Congress to lift an embargo against a nation found to have been attacked in violation of the Pact of Paris, the document had the support of the committee members. On the matter of lifting embargoes, however, there was a difference of opinion. A new concept of neutrality which dispensed with insistence on ''the right to trade with both sides'' and stood on a determination not to trade with any belligerent nation, found voice in 1935 in the President's stand on neutrality and warnings from the State Department that business firms trading with belligerents would do so at their own risk. The National Peace Conference in reinforcement of such a stand proposed that business losses incurred by private firms through depleted foreign trade, ''shall be borne by the people of the United States, as a part of the cost of avoiding the involvement of the United States in war.''

The design of the National Peace Conference was to stimulate progress toward peaceful settlement of international disputes by setting up for Congress wider powers based on the new philosophy of restraint of foreign trade rather than permitting indiscriminate trading likely to lead eventually to war because of dangers attendant upon a national defense of such an objective. The redrafted Neutrality Act was the work of a committee which spent two months in its preparation under the chairmanship of Prof. James T. Shotwell of Columbia University. The organizations represented in the conference and which had the document under consideration as the year closed were American Association of University Women, American Friends Service Committee, Philadelphia, American Unitarian Association, Boston, Central Conference of American Rabbis, Church Peace Union, Carnegie Endowment for International Peace, Council for Social Action of the Congregational and Christian Churches, Committee on Militarism in Education, Committee on Women's Work of the Foreign Missions Conference Council of Women for Home Missions, Department of International Justice and Good Will of the Federal Council of Churches, Fellowship of Reconciliation, Institute of International Education, Intercollegiate Council on International Cooperation, League of Nations Association, Methodist Episcopal Church's World Peace Commission, National Board, Y. W. C. A., National Council, Y. M. C. A., National Council of Jewish Women, National Council for Prevention of War, National Federation of Business and Professional Clubs, National Federation of Temple Sisterhoods, National Student Federation, Women's Christian Temperance Union, Women's International League for Peace and Freedom, World Alliance for International Friendship Through the Churches, World Peace Foundation, World Peaceways, and World Peace Fellowship of Christian Endeavor.

WOMEN'S MANDATE AGAINST WAR

The Women's International League for Peace and Freedom sponsored in December the circulation of a document called "People's Mandate to Government" in which a demand was made for immediate curtailment of armaments and armed forces throughout the world. A total of 50,000,000 signatures was set as the goal of which 12,000,000 were sought in the United States.

SOCIAL SECURITY

United States and Canada.—A joint statement in the name of church bodies in the United States and Canada was issued in June at Montreal by the Church Conference on Social Work and the Social Service Council of Canada. The Rev. C. E. Silcox, secretary of the Canadian group was chairman. No need was seen for delay "in effecting a readjustment of our social and economic order in harmony with fundamental human rights to decent subsistence." The statement, which constituted the annual message of the two church bodies, insisted that social security was of sufficient importance to justify amending the Constitution of the United States and the British North American Act if necessary.

Federal Council's Labor Day Message.—In the annual message sent to 110,000 pastors in the United States by the Federal Council of the Churches of Christ in America to be read on the Sunday nearest Labor Day, tribute was paid to the work of scientists and engineers and the aid of private and government commissions in an attempt to find how to provide material goods for the needs of all people. "Efficient means must be found to eradicate sins of selfishness and to make this abundance available for all," the message said. "The solution of the deplorable maladjustment in distribution is adequate income for the masses and security of employment. Only by a more equalized ability to purchase can the anomaly of want in the midst of abundance be solved. To achieve such an end new forms of social control must be designed." The statement added "that the changes which must come in our economic set-up can come peaceably only if the channels of communication are kept open" and expressed an appreciation of continued maintenance of the rights of free speech and a free press. Accompanying the message was a special prayer for use on the day it was read.

Child Labor.—Early in the year clergymen of 26 Protestant denominations in a signed statement urged ratification by the New York State legislature of the Federal Child Labor Amendment. This, however, was opposed by Roman Catholics. The Protestants called attention to a resolution adopted in December, 1934 at the biennial meeting of the Federal Council of Churches, favoring "speedy ratification" by all state legislatures.

Social Action Survey.—A national survey on social action was undertaken in 1935 by the National Religion and Labor Foundation which sent out copies of a questionnaire to 100,000 religious leaders and clergymen seeking to know how many would pledge themselves to work for social justice. Officials of the foundation announced in December that 2,400 religious leaders were willing to work for social ownership of public utilities and basic industries. But only about 4,700 replies were received to forty-seven specific questions covering eleven general fields of activity such as progressive legislation, civil liberties, labor leaders as guests and speakers, the religious leader in industrial disputes, the right of labor to organize, fair play for underprivileged groups, political allegiance, jail service, rural cooperation, membership in national movements for social justice, personal and group commitment to action.

The Foundation Program.—Organized during the depth of the business and economic depression which followed the 1929 market crash, the Foundation began in 1933 the publication of a monthly bulletin entitled *Economic Justice.* By 1935 the group was ready for the undertaking of a two-year study of the field of social action by religious leaders. In response to an invitation by President Roosevelt to religious leaders to write him giving their opinions as to how his Administration might "best serve our people", 45 members of the executive board of the Foundation jointly signed a communication declaring against "palliative legislation inside the capitalistic system." They urged him to adopt a "left" course, expresing a conviction business recovery would not come about under the "profit system." The Social Security Act was viewed as a failure because it "places a disproportionate burden on the workers." The President was commended for his support of the Tennessee Valley Authority but the communication criticized his policy toward public utilities, saying, "you made an effort toward more drastic regulation of the utilities, but the compromise you accepted is utterly inadequate. People are being denied the bare necessities of life, while an economy of scarcity to protect the profit system is being encouraged. We find, further, that the increasing disregard for civil liberties reveals how far we are from a just solution of our economic problems. Sound recovery would involve a closer approach to economic justice, and would therefore remove much of the strain and tension between social classes." Officials of the Foundation later decided to send to the President a printed copy of the survey findings based on the answers received to their questionnaire. They also sent out literature to churches throughout the country urging the organizing of religious councils for social action in communities to be formed "of citizens who seek to embody in their own living the ethical standards of a cooperative society and seek through study and action to make the ideals of the church and synagogue a reality.

Consumer Cooperation.—Under the auspices of the Federal Council of the Churches of Christ in America, the International Missionary Council, the Cooperative League of the U.S.A. and religious leaders in church federations in the United States and Canada, Toyohiko Kagawa, founder of the Japanese Federation of Labor and leader of the Kingdom of God Movement in Japan, began in late December a tour of the United States and Canada to last six months. He was speaking Dec. 28 to Jan. 1, 1936 at a conference in Indianapolis composed of men and women who were studying the relationship organized Christianity might acquire with organized consumers whose objective was inclined toward control of politics, economics and business in accordance with the teachings of Jesus, placing minor emphasis on theology and toning down the profit motive of business.

RELIGIOUS 'RECOVERY' DRIVE

Laymen and clergymen of Christian and Jewish faiths organized a National Committee for Religion and Welfare Recovery for 1935 and under their auspices a nation wide "loyalty day" program was conducted on Oct. 5 and 6 in which attendance on religious worship was emphasized through the use of press releases, literature, stickers, rally meetings held in advance and announcements from pulpits. Following the two-day observance reports indicated that churches and synagogues had noted increased attendance at religious services in some cases as high as 300 per cent. During September and October a total of 26,216,983 copies of newspapers were counted in which notices of the meetings were published. The drive had the aid also of many public officials and officers of social welfare organizations and secular clubs. The campaign was definitely allied with the general movement among churchmen to promote international peace. Charles V. Vickrey, president of the Golden Rule Foundation, was secretary of the committee.

HUMAN RELATIONS INSTITUTE

Under the auspices of the National Conference of Jews and Christians an Institute of Human Relations was conducted Aug. 25 to 30 at Williams College. Brotherhood meetings were held in February and plans laid for the third such series for 1936. The conference continued its activities in the interest of popular education as to happenings in Mexico, Russia, Germany and other parts of the world, in which the welfare of religious groups was either being threatened or aided. Public meetings were held in 1,000 villages, towns and cities in the United States, supplemented by radio broadcasts, in which Roman Catholics, Jews and Protestants took part.

MISSIONS

Officials of home mission boards of six Protestant denominations signed an agreement in 1935, which had the effect of a contract, not to use funds for competitive mission enterprise after Dec. 31. A two-year survey had been made to show what each denomination had been paying to local projects and how they had been competing with one another.

In the spring John D. Rockefeller Jr. informed the Northern Baptist Convention he would no longer give money to its unified budget and that he had decided in the future to give financial aid only to charitable work promoted through interdenominational or non-denominational cooperation. His decision was perhaps the most outstanding indication in the entire year of the trend toward cooperation among churchgoers. Reared as a Baptist and always a heavy contributor to the work of the convention until 1935, Mr. Rockefeller's step, though regretted by officials of the denomination, was not unexpected. His annual contributions began to grow smaller after 1928, the sum for that year being $500,000 for budget requirements. In 1932 he gave $300,000 and with his last donation of $100,000 for the fiscal year ended April 30, 1935 gave notice of his change of mind. Mr. Rockefeller said in a letter to the convention his intention was to support financially projects ''which interpret the Christian task in the light of present day needs not so much on denominational affiliation as on broad, forward-looking principles of cooperation.'' He added he would be ready to consider along with other enterprises, ''any of the convention's undertakings at home or abroad coming within such a classification. . ''

Although Mr. Rockefeller recognized ''the significance, the beauty and the helpfulness of ritual and creed as developed by different denominational groups,'' he said ''what gives me pause is the tendency inherent in denominations to emphasize the form instead of the substance, the denominational peculiarity instead of the oneness of Christian purpose.'' This, in his view, was ''divisive force in the progress of organized Christian work and an obstacle to the development of the spirit and life of Christ among men.''

BIRTH CONTROL

A group of 13 New York Jewish and Protestant clergymen replied in December to a sermon preached at St. Patrick's Roman Catholic Cathedral, New York City, on Dec. 8, by Cardinal Hayes opposing the making legal of birth control information to be obtained at clinics. The cardinal was aroused over a meeting a few days previous at Carnegie Hall under the auspices of the American Birth Control League, at which he felt the position of the Roman Catholic Church on the subject had been misrepresented. In the interfaith reply to the cardinal, his right was conceded to ''remind'' Roman Catholics what the Catholic doctrine was on the matter. But the statement expressed a view that for any one religious group to attempt to exercise authority over other groups, whether that authority be legal, social, or ethical, was undemocratic and without place in America. No danger of decadence was feared by those who signed the statement. They appealed to the Roman Catholic Church to withdraw its opposition to a move to legalize birth control information at clinics.

NECROLOGY

Among the deaths of religious leaders, who had been identified with interdenominational work were:

Frank Mason North, d. Dec. 17; president 1916 to 1920, Federal Council of the Churches of Christ in America; member of the executive committee and Corresponding Secretary of Board of Foreign Missions of the Methodist Episcopal Church.

Mrs. Eleanor Lansing Cory Leiper, d. Jan. 30; former missionary in China; wife of Henry Smith Leiper, joint executive secretary of the Universal Christian Council on Life and Work and the Department on Relations with Churches Abroad of the Federal Council.

Mrs. Mary Haven Thirkield, d. Feb. 16; wife of Bishop Wilbur Patterson Thirkield of the Methodist Episcopal Church, chairman of the Federal Council's Committee on Worship. Mrs. Thirkield was president emeritus of the Methodist Episcopal Woman's Home Missionary Society.

Emory Olin Watson, d. Oct. 30; secretary, 1919 to 1925 of the Washington Office and General Commission of Army and Navy chaplains of the Federal Council; decorated by Greek Government with Silver Cross of the Order of the Saviour for work as General Secretary of the American Friends of Greece, May 1, 1925 to Nov. 1, 1926; editor Southern Christian Advocate, 1926 to 1933.

Frederick K. Lynch, d. Dec. 19, 1934; Secretary Church Peace Union 1914 to 1926; editor Christian Work, 1906 to 1926; Secretary Commission on International Justice and Goodwill of the Federal Council of Churches, 1909 to 1911; member of the staff of the American Scandinavian Review, 1921-1929; president, American Scandinavian Foundation, 1910 to 1918; a founder and secretary 1914 to 1926 of the World Alliance for International Friendship through the Churches.

Edwin Courtland Dinwiddie, d. May 5; superintendent National Temperance Bureau; dry leader and lobbyist, represented Anti-Saloon League in campaign which brought about national Prohibition.

THE ROMAN CATHOLIC CHURCH

By Charles A. McMahon

Editor, *Catholic Action*

INTRODUCTORY

The Catholic Church as a universal institution with more than 331,500,000 members throughout the world, including some 20,000,000 in the United States, is naturally looked to by great numbers of individuals and organizations who do not recognize her spiritual authority. What the Church, through her Supreme Pontiff and duly authorized ecclesiastical leaders, has to say with reference to matters both within and without the realm of her purely religious mission and ministry is always of interest and importance. Whether it be questions of world peace, of social justice, progress and security, of Christian education, of Christian marriage and family life, of wholesome entertainment and recreation, of the welfare of youth, of beneficent legislation, of effective charity, of intelligent and conscientious citizenship, of clean literature, in fact all questions that affect the moral, educational and civic interests of society, the position and policy of the Catholic Church on such matters are invariably scrutinized and often subscribed to by thousands outside her fold. Brief mention of some of the interests and activities of the Church in these and other problems arising both in the United States and abroad will be made in the following paragraphs.

STATISTICS OF THE CHURCH IN THE UNITED STATES

Catholics in the United States totaled 20,523,053 in 1935, according to the *Official Catholic Directory*. During the year, there were 63,845 converts, the gain in population being 200,459 and in converts 14,664 over the year previous. The Catholic school attendance in all grades—university, college, seminary, high school and elementary—was 2,609,000 classified as follows: elementary schools, 2,180,000; high schools, 286,000; universities and colleges, 115,000; normal schools and teachers colleges, 9,000; preparatory seminaries, 11,000; major seminaries, 8,000.

NATIONAL CATHOLIC WELFARE CONFERENCE

Organization.—This organization has operated since 1919 as the official organization of the American Hierarchy. It serves the archbishops and bishops of the United States with information and programs covering various works of Catholic Action and aims to facilitate discussion of policies affecting the interests and activities of the Church in the United States. The ''N.C.W.C.'', as it is familiarly known, is directed by an Administrative Board of ten archbishops and bishops aided by seven other members of the Hierarchy who serve as assistant bishops. The N.C.W.C. departments and bureaus include: Education, Press, Social Action, Catholic Action, Legal, Immigration, Publicity and Information, Latin America, Historical Records, Publications, *Catholic Action* (official organ), Auditing, and the two coordinate branches of its Lay Organizations Department, the National Council of Catholic Men and the National Council of Catholic Women. Major responsibilities of the Men's Council are the conduct of the weekly Catholic Hour, broadcast over a nationwide circuit, and the maintenance of a Catholic Evidence Bureau. The Women's Council maintains at 2400-19th Street, Washington, D. C., a National Catholic School of Social Service, a graduate, resident school for students desiring to qualify for social work.

Welfare and Education.—The Conference continued its close interest in the welfare of Catholic youths in CCC camps, located in 105 dioceses; cooperated with the National Youth Administration set up by President Roosevelt, opposed the practice of certain publishers of advertising obscene publications through the mails, and established at its national headquarters a national center of the Confraternity of Christian Doctrine. Only a few instances were reported to the N.C.W.C. Education Department of a closing of schools because of a lack of funds. An N.C.W.C. survey revealed that students of 154 Catholic universities and colleges received aid from the Emergency Federal Relief Administration.

Press Service.—The N.C.W.C. Press Department, operating the *N.C.W.C. News Service,* added twenty subscribers to its list and expanded its service at home and abroad along several lines. N.C.W.C. subscribers now number 103, the largest in its history. *The News Service* is now serving Catholic papers in 18 countries, the largest number in the service's history:—Australia, British West Indies, Canada, China, Colombia, England, India, Ireland, Italy, Japan, Malaya, Mexico, New Zealand, Philippine Islands, Poland, Puerto Rico, South Africa, and the United States. Outstanding news events of the year listed by the *N.C.W.C. News Service* annual report were: The Holy Father's plea for peace at Christmastime; the Canonization of St. Thomas More and St. John Fisher; U. S. Bishops' Statement on Mexico; difficulties in Spain and the outbreak of bigotry in Belfast and Glasgow; Australian National Eucharistic Congress; Ohio school case; continuing film campaign, and activities for the promotion of social justice. Special attention was called, in the report, to the World Catholic Press Exhibition, which is to be held at Vatican City from April to November, 1936, as a tribute to the Holy Father, who has evinced the greatest interest in the project and accorded it every assistance. A committee for the United States is now arranging the American national exhibit and endeavoring to make it adequate for the country.

Legal Aid.—The N.C.W.C. Legal Department, which serves as a clearing house of information on Federal, state and local legislation, gave attention to Catholic interests involved in a multitude of problems including the Social Security Act, the Emergency Relief Appropriation Act, the National Youth Administration, the Civilian Conservation Corps, the Resettlement Administration, the Rural Electrification Administration, the Bituminous Coal Bill, the National Labor Relations Act, the Farm Moratorium Act, the Banking Act of 1935, the Federal Tax Bill, efforts to obtain relaxation of legal restrictions on the dissemination of birth control information and devices, eugenic sterilization laws, laws relaxing restrictions on divorce in several states, Philippine Independence, public services for school children, Federal aid to education, compulsory oaths of allegiance for teachers, and the statute providing for the preservation of historic sites.

Social Activities.—The N.C.W.C. Social Action Department experienced during 1935 a definite growth of interest in the principal fields which it seeks to cover, *viz.;* industrial relations, rural welfare, family life, international relations and its Catholic Action program in the Colleges and Schools. Conditions in the country today have given great impetus to the department's program on industrial relations. Attention has been focused on the principles of Catholic social teaching to make Catholics conscious that the Church has a "system of doctrine" on industrial problems and that they should know and apply these principles. Pope Pius' Encyclical "Reconstructing the Social Order," Pope Leo's Encyclical on "the Condition of Labor" and the Bishops' Program of Social Reconstruction, have been used as a guide in developing a policy of action. It is safe to say that those great documents have been more widely studied and read than in any previous year. Five industrial conferences and one special conference on "The Negro in Industry" were held, in Harrisburg, Buffalo, Denver, St. Louis and Cincinnati. In these the department cooperated with the Catholic Conference on Industrial Problems. The department also continued its cooperation with the Catholic Association for International Peace, which held three main conferences.

Rural Life.—A dozen more directors of diocesan rural life bureaus were appointed during the year, bringing the total to more than 50, and the director of the National Bureau, N.C.W.C., gave valuable aid to these in keeping them informed regarding the activities of the various agencies of the Federal Government dealing with rural life—the Department of Agriculture, the Agricultural Adjustment Administration, the Rural Rehabilitation Administration, the Farm Credit Administration, and the Subsistence Homestead Division. The activities of the Rural Life Bureau with regard to religious instruction continued much as in previous years. Correspondence has been carried on with priests and laymen interested in credit unions.

Family Life.—The work of the Family Life Section showed appreciable growth and two new brochures were published. The encouragement of courses on the family in Catholic higher schools and the development of adult study clubs dealing with family life topics has met with gratifying success, the report stated.

Special Activities.—Among special activities of the department noted were: cooperation with government agencies; the service of the director and assistant director of the department on the faculty of the National Catholic School of Social Service; representation at conferences, members of the staff having participated in the sessions of the National Conference of Catholic Charities, the National Council of Catholic Women, the National Conference of Social Work, the Catholic Conferences on Industrial Problems, and the Catholic Association for International Peace; organizing of exhibits; and the conducting of two courses at the Summer School Session of a leading university.

The National Council of Catholic Women celebrated in 1935 the 15th anniversary of its establishment with a most successful national convention held in Fort Wayne November 17-20. The Council now includes some 2,300 national, state and local groups in its membership. During the summer of 1935 the N.C.C.W. held a youth institute at its National Catholic School of Social Service, the proceedings of which have been published in booklet form under the title *Youth—Today and Tomorrow.* In the past 15 years approximately 400 young women trained in the school have entered the field of social service. They are working in 35 states, the Philippines, and nine foreign countries. The 1935 class numbers 49 in the regular course, with 30 young women, many of them non-Catholic, registered in the evening classes.

The National Council of Catholic Men reports 1,297 organizations affiliated during 1935. The council maintains a Catholic Evidence Bureau and maintains the weekly "Catholic Hour" broadcast, to the cost of which, among thousands of other donors, the Knights of Columbus, have contributed $22,000 in the past five and a half years.

Reports.—The report of the N.C.W.C. Department of Catholic Action asks all Catholic organizations to work in unity and harmony under the guidance of the Hierarchy particularly in three important fields, *viz.;* the press, the radio and the movie. The report of the N.C.W.C. Bureau of Immigration reviews its work in assisting immigrants at the port of entry, referring them for follow-up attention in the dioceses and in giving attention to the numerous varied and often complex problems referred to it from widely scattered sources. Last year the N.C.W.C. Bureau of Immigration handled 55,885 cases, involving 68,085 persons.

Study Programs.—The N.C.W.C. Study Club Committee furnished to several hundred cooperating Catholic societies and their members a month by month study club program devoted to a consideration and discussion of the following topics: "Catholic Thought on the Family and Its Needs;" "The Christian Home;" "Lay Organizations and the Family;" "The Catholic Press and the Family;" "The Catholic Family and the Youth Movement;" "The Catholic Family and the Community;" "World Problems in Relation to Family Life;" "The Family and Economic Life." These were followed up by several hundred study groups of Catholic men and women throughout the country.

Education.—The N.C.W.C. Department of Education cooperated, Nov. 11-17, 1935, in the annual observance of American Education Week, presenting to the more than 12,500 Catholic educational institutions of various grades the following subjects for consideration: Monday, "World Peace;" Tuesday, "Catholic Education;" Wednesday, "Problems of Youth;" Thursday, "Social Justice;" Friday, "Religious Freedom for Mexico;" Saturday, "The Sanctity of the Home;" Sunday, "Catholic Action." Under each main heading were given pertinent topics for discussion, together with a brief bibliography.

Motion Pictures.—An important committee operating through the N.C.W.C. Administrative Board is the Episcopal Committee on Motion Pictures responsible for the Legion of Decency and the evaluation of current motion picture releases prepared for the guidance of the Catholic motion picture public.

Protest on Mexican Persecution.—The N.C.W.C. Administrative Board, on May 1, 1935, issued a vigorous statement condemning the "brutality seldom exceeded in all human history," with which "the present Administration in Mexico is deliberately, ruthlessly, pursuing a policy whereby all religion, and consequently all true freedom, will be destroyed." In response to an appeal made by the Administrative Committee at this time, Archbishops and Bishops throughout the country called for public prayers in the churches of their sees, during the first part of June, for the persecuted Church in Mexico. The Knights of Columbus, especially in correspondence with President Roosevelt, asked that the United States remonstrate to the Government of Mexico against the persecution of religion in that country and advocated consideration of the Borah resolution with regard to the subject as introduced in the United States Senate.

NATIONAL EUCHARISTIC CONGRESS

The Seventh National Eucharistic Congress, held at Cleveland Sept. 23-26 was the most impressive Catholic event in the United States during the year. With His Eminence, Patrick Cardinal Hayes, Archbishop of New York, occupying the office of Legate of His Holiness, Pope Pius XI, and with more than 100 archbishops and bishops and well over 500,000 members of the laity taking part, the Congress enjoyed four glorious days, which were climaxed by the participants hearing the voice of the Holy Father himself, brought by radio from the Vatican. The Congress also received the warm greetings and best wishes of President Roosevelt, who sent Postmaster General James A. Farley to represent him at the great demonstration of faith.

NEW BISHOPS

Four bishops took up new duties in the course of the year, 10 American priests were chosen for episcopal dignity, and four bishops died. The Most Rev. Joseph C. Plagens, Auxiliary Bishop of Detroit, was named Bishop of Marquette; the Most Rev. Gerald P. O'Hara, Auxiliary Bishop of Philadelphia, was named Bishop of Savannah; the Most Rev. James H. Ryan, rector of the Catholic University of America, was named Bishop of Omaha, and the Most Rev. Ralph L. Hayes, Bishop of Helena, became rector of the North American College in Rome.

The priests selected for episcopal dignity during the year were: the Most Rev. Aloysius J. Muench, Bishop of Fargo; the Most Rev. George L. Leech, Bishop of Harrisburg; the Most Rev. Peter L. Ireton, Coadjutor Bishop of Richmond; the Most Rev. Raymond A. Kearney, Auxiliary Bishop of Brooklyn; the Most Rev. William Richard Griffin, Auxiliary Bishop of La Crosse; the Most Rev. Thomas Henry McLaughlin, Auxiliary Bishop of Newark; the Most Rev. Francis X. Ford, M.M., Prefect Apostolic of Kaying, China; the Most Rev. Joseph M. Gilmore, Bishop-elect of Helena, Mont.; the Most Rev. Hugh L. Lamb, Auxiliary Bishop-elect of Philadelphia. The Most Rev. Richard Pittini, S.C., who became an American citizen while serving as Provincial of the Eastern Province of the Salesians, was named Archbishop of Santo Domingo, Dominican Republic.

The Most Rev. M. Frederic Dunne, O.C.S.O., was solemnly blessed as Abbot of the Abbey of Our Lady of Gethsemane in Kentucky. He succeeded the Most Rev. Edmond M. Obrecht, O.C.S.O., who died on Jan. 4.

VARIA

Catholic hospitals in the United States totaled 659 at the beginning of 1935, an increase of 12 in 10 months, a survey showed.

Alabama repealed its so-called ''convent inspection act'' in effect for 15 years, following the example set by Florida some years ago. Gov. Graves, of Alabama, rejected a bill for the sterilization of feeble-minded and habitual criminals presented to him for signature by the State Legislature.

During the year, *The Catholic World* magazine observed its 70th anniversary while the *Catholic Daily Tribune,* only English-speaking Catholic daily in the United States, celebrated the 15th anniversary of its establishment on July 1, 1935.

The activities and conventions, national and regional, of the Catholic Conference on Industrial Problems, the Catholic Association for International Peace and the Catholic Rural Life Conference were marked by an increase of interest as well as by an increase in organization and individual affiliations.

NECROLOGY

Among the distinguished United States Catholics who died during the year were: The Rev. John Cavanaugh, C.S.C., former President of the University of Notre Dame; the Rt. Rev. Msgr. John P. Chidwick, who was chaplain on the U.S.S. Maine which was blown up in Havana Harbor in 1898; Joseph B. Kirby, Baltimore banker and trustee of the Catholic University of America; Adrian Iselin, New York banker and former trustee of the Catholic University; the Rt. Rev. Msgr. William J. Fitzgerald of Camden, N. J.; Sister Paulina Finn of Georgetown Visitation Convent, Washington, D. C., a noted author; the Rev. Claude J. Pernin, S.J., educator; Joseph Patrick O'Mahony, founder of *The Indiana Catholic and Record;* Brother Isidore, noted Xaverian educator; the Rev. Martin Hehir, C.S.Sp., President Emeritus of Duquesne University; Edward L. Doheny, oil magnate; the Rev. Francis M. Connell, S.J., Jesuit educator; the Rt. Rev. Msgr. Edward L. Spalding; the Very Rev. Dr. Joseph P. Murphy, S.V.D., Rector of the Catholic University of Peiping, China; Matthew O. Foley, Catholic journalist; John J. Bernet, President of the Chesapeake and Ohio and Nickel Plate railroads; the Rev. Matthew L. Fortier, S.J., prominent Jesuit educator; the Rt. Rev. Msgr. Anthony F. Kaul, oldest priest in the Diocese of Harrisburg; Clement Barnhorn, sculptor; the Very Rev. Msgr. Raphael Fuhr of Los Angeles, who died in Rome; the Very Rev. Emile Mattern, S.J., Assistant for America to the General of the Society of Jesus in Rome; the Rev. Henry E. O'Keeffe, C.S.P., widely known missionary and writer; the Rev. Oliver Welsh, C.S.P., well known missionary; the Rt. Rev. Msgr. Matthew P. O'Brien of Cincinnati; the Rt. Rev. Msgr. A. J. Thiele of Chicago; the Rev. Alexis Cunneen, C.P.; the Rev. Dionysius Mahoney, S.J., noted Jesuit retreat master; the Very Rev. Joseph A. St. Laurent, S.S.J., Rector of St. Joseph's Seminary at the Catholic University; the Rev. David Wheeler, S.J., of Holy Cross College; the Rt. Rev. Msgr. Joseph Och, for many years Rector of the Pontifical College Josephinum at Columbus, O.; the Rev. Dr. Selden P. Delany, noted convert who for a number of years was a leader of the Protestant Episcopal Church in New York; the Rev. Gustave Caballero, S.J., of El Paso, noted priest-scientist; the Very Rev. John T. Nicholson, Vicar General of the Diocese of Cheyenne; former Congressman Joseph H. O'Neill of Massachusetts; the Rev. Louis G. Plamondon of Cincinnati; the Rev. Thomas Grant, S.J., noted missionary to the Indians; the Rev. Dr. John A. McGraw of Syracuse, an authority on Canon Law; Mme. Marcella Sembrich, operatic and concert singer; Congressman Anthony J. Griffin of New York; Joseph F. Keany, prominent Brooklyn Catholic; Frank J. Navin, President of the Detroit Baseball Club; the Rev. George Hespelein, C.SS.R., Redemptorist missionary; John Mario Graham, prominent Georgia layman; the Rev. Eugene McDonnell, S.J., widely known Jesuit educator and retreat master; Paul J. Kroesen, prominent artist, T. V. O'Connor, former Chairman of the United States Shipping Board; Miss Ella Loraine Dorsey of Washington, D. C., writer; the Rt. Rev. Msgr. Louis J. Nau of Mt. St. Mary's Seminary, Cincinnati; the Rev. Timothy Barrett, S.J., noted Jesuit educator and theologian; John G. Agar of New York, who was prominently identified with the work of the National Catholic War Council; William D. Guthrie, eminent constitutional lawyer.

THE CHURCH ABROAD

Pope Pius XI.—Pope Pius XI, observing his 78th birthday on May 31, exhibited remarkable health and vigor. His Holiness passed a brief summer vacation at Castelgandolfo, interrupting it to visit Rome to celebrate Mass for an international gathering of war veterans. He personally inaugurated the new Vatican astronomical observatory at Castelgandolfo and gave personal encouragement to the preparations being made for the World Catholic Press Exhibition to be held in Vatican City in 1936.

One of the Holy Father's principal predilections was the cause of world peace. At the very beginning of 1935, His Holiness emphasized the need of harmony and peace. He urged that during the Triduum at Lourdes prayers ascend to Heaven from all countries that "the rainbow of peace will finally arise over the tormented world." He called upon some 1,200 delegates to the international congress of Catholic nurses to join with him in prayers for peace. He told some 12,000 war veterans from 16 nations, in Rome on a pilgrimage, that he prayed for peace because, as the Vicar of Christ, it is his "particular and essential" duty without which he could not think of himself as Pope.

Holy Year of Jubilee.—A solemn Triduum of Lourdes, April 26, 27 and 28, marked the close of the Holy Year of Jubilee extended to the whole world and the 75th anniversary of the miraculous appearance of the Blessed

Virgin at that world famous shrine. At the invitation of His Holiness, Pope Pius XI, the universal family of the faithful joined in these three days of prayers. A General Communion of Catholic Children throughout the world on Aug. 15, Feast of the Assumption, commemorated the 25th anniversary of the decree of Pope Pius X extending the reception of Holy Communion to children seven years of age.

Concordats.—A concordat between the Holy See and Jugoslavia was signed in July, becoming the nineteenth diplomatic pact concluded in the Pontificate of Pope Pius XI, and late reports from Czechoslovakia state that the negotiations for application of the *modus vivendi* agreement between the Holy See and that country were in their final phases.

New Cardinals.—Twenty new cardinals were proclaimed during the year, all at a consistory held on Dec. 16. Five cardinals died in the course of the year. This left the total number of members of the Sacred College at 68, two short of the full complement.

Anniversaries.—The year saw observance of the 350th anniversary of the Marian Congregation *Prima Primaria;* the centenary of the birth of Pope Pius X, whose cause for beatification is in process; the fourth centenary of the founding of the Ursulines; the seventh centenary of the canonization of St. Elizabeth of Hungary; the 14th centenary of the election of St. Agapitus I, defender of the Church against Emperor Justinian, as Pope; the fourth centenary of the martyrdom of St. Thomas More and St. John Fisher; the 12th centenary of the death of St. Bede; the 12th centenary of the birth at York of Blessed Alcuin, preceptor of the sons of Charlemagne; the golden jubilee of the inauguration of perpetual adoration of the Blessed Sacrament in the Basilica or the Sacred Heart in Montmartre, Paris, and the close of the seventh centenary of the canonization of St. Dominic.

THE CHURCH IN CANADA

Canada, which the Holy Father said recently occupies a most beautiful place in the Catholic family, counts among its highlights of 1935 the remarkable good will which attended the visit of its Cardinal to Europe. Arriving back in Quebec on Dec. 8 from a two-months journey, His Eminence Rodrigue Cardinal Villeneuve, O.M.I., Archbishop of Quebec, brought to Canada the blessing of Pope Pius XI and the best wishes of King George V of England. He had left behind in Italy, in France, in Ireland and in England a veritable chain of good feeling and admiration for Canada. His Eminence received the blessing of the Holy Father during an audience at the Vatican. Lord Tweedsmuir became the new Governor General of Canada in the latter part of 1935, and dispatched a message of ''warmest welcome'' to greet Cardinal Villeneuve upon his return to Quebec.

Canada gained the distinction of having the youngest Archbishop in North America when the Most Rev. J. C. McGuigan, 40 years of age, was installed as Ordinary of the Archdiocese of Toronto last March. In June, Canada lost by death the Rev. Leonard de Saint-Pe, O.M.Cap., aged 90 years, who for a time was a schoolmate of St. Bernadette Soubirous.

The Dionne quintuplets, the world's most famous babies, were learning their prayers in 1935, and at night knelt and blessed themselves before being put to bed.

SPAIN

Catholics in Spain saw a distinct improvement of their position in 1935. The filling of six sees in February was hailed everywhere as an indication of improved relations between the Republic and the Vatican. The filling of five more sees in May was taken as additional evidence of better relations. The elevation to the Cardinalate on Dec. 16 of Their Eminences Federico Cardinal Tedeschini, Papal Nuncio to Spain, and Isidro Cardinal Goma y Tomas, Archbishop of Toledo, Spain, was hailed with still further rejoicing.

GERMANY

The silent determined fight upon the Church in Germany grew worse in

1935, during the first five months of which it was reported that 120 priests and women religious had been arrested. By November, it was estimated that fines totalling well over $2,000,000 had been imposed on defendants in trials instituted against Catholic religious orders and societies. Catholics of the Saar, who gave an impressive demonstration of their loyalty to Germany in the plebiscite, urged early in 1935 that full application be given the Concordat between the Reich and the Holy See. By August, authorities were convinced that scrapping of the Concordat, completely eliminating all Catholic associations, suppressing all Catholic newspapers and definitely restricting the Church "to the sacristy," which means preventing her from exercising influence in public life, was the Nazi aim. All the German bishops felt called upon to issue strong warnings against the modern pagan movement in their Lenten Pastorals.

RUSSIA

While there were reports early in 1935 indicating that there had been some slight diminution in the persecution of religion in Soviet Russia, later reports called these surface indications and declared that, as a matter of fact, the persecution not only was unabated but had been intensified in some localities.

ENGLAND

His Eminence, Francis Cardinal Bourne, died on New Year's Day, 1935, and was succeeded as Archbishop of Westminster, England, by the Most Rev. Arthur Hinsley, who had been Apostolic Delegate to the missions of Africa. Archbishop Hinsley promised a mustering of Catholic forces in England and Wales for Catholic Action.

King George V and Queen Mary observed the 25th anniversary of their accession to the throne of England this year, and Pope Pius XI telegraphed his cordial greetings. King George replied: "The Queen and I are deeply touched by the extreme kindliness with which Your Holiness has expressed yourself toward us on the Silver Jubilee of my accession and thank you wholeheartedly for your prayers and good wishes." Catholics of England paid tribute to King George on his jubilee in a spiritual way, most of the ordinaries of the nation celebrating Masses in their cathedrals on that occasion.

In the greatest exodus of ordinaries from England since the reestablishment of the English Hierarchy, most of the bishops went to Rome for ceremonies marking the canonization of St. Thomas More and St. John Fisher. Twice within one month, Pope Pius extended an invitation to the English nation to return to unity with the Holy See. The English and Welsh bishops joined in a vigorous protest against the persecution in Mexico, dispatching a copy of the protest to Archbishop Ruiz y Flores, Apostolic Delegate to Mexico.

IRELAND AND SCOTLAND

His Eminence, Joseph Cardinal MacRory, Archbishop of Armagh and Primate of All Ireland, observed the golden jubilee of his ordination at Downside Abbey, the day following its consecration by His Eminence Justin Cardinal Seredi, Primate of Hungary, who came as Papal Legate to the Abbey ceremonies.

The fury of the "July Twelfth" riots in Belfast overshadowed the entire year in Ireland. These riots, which continued over some days, took a number of lives, brought injury to many others, and left 300 families homeless through the burning of their dwellings. They were called the worst such disturbances since 1922, and were held to have been inspired partly by anti-Catholic riots in Edinburgh, Scotland.

The Lenten pastorals of the Irish bishops concentrated chiefly on the growing menace of Communism, on the soul-destroying love of pleasure, and on the evils of nationalism.

Serious riots created by anti-Catholic bigots marred the first National Eucharistic Congress ever arranged in Scotland. It was held at Edinburgh on June 23, 24 and 25. Some of the anti-Catholic demonstrators in June insulted J. A. Lyons, Prime Minister of Australia and a Catholic. The Lord Provost apologized to Mr. Lyons.

AUSTRIA

Through its schools, its press and its charities, the Catholic Church is enjoying greater development in Austria under the Concordat effected between that country and the Holy See. Socialism is still a threat and for that reason special attention is being paid to the education of the people. Thousands have returned to the Church since the political downfall of Socialism. Religious vocations in Austria are increasing so steadily that the number of clergy in that country is expected soon to reach an unprecedented total.

FRANCE

France has seven Cardinals as a result of the elevation to the Sacred College, on Dec. 16, of Archbishop Suhard of Rheims and Archbishop Baudrillart, rector of the *Institut Catholique* of Paris.

The oustanding event of the year in France was the solemn Triduum with which the Holy Year was closed at Lourdes. The scenes on that occasion beggared description. Moreover, the unusual honors conferred upon Cardinal Pacelli, who came to France as Papal Legate to the Lourdes celebrations, gave evidence of the extent of the cordial relations existing between the French Government and the Holy See. The Supreme Order of Christ, the highest honor given by the Pope, was conferred upon President Lebrun of France following the Lourdes celebrations.

BELGIUM

When Queen Astrid of Belgium was killed in an automobile accident in August, His Holiness, Pope Pius XI, was among the first to send his condolences. King Leopold replied that he was ''profoundly touched by such a paternal part Your Holiness takes in my immense grief.''

CATHOLIC EVENTS IN OTHER COUNTRIES

Holland.—Restoration of the Dutch Legation to the Holy See was being seriously considered and widely approved in Holland in 1935. The Catholic population of Holland is steadily increasing, statistics made public this summer showed.

Switzerland.—The year in Switzerland saw ''A Statement on the Present Crisis,'' issued by the bishops of the Administrative Committee of the National Catholic Welfare Conference in the United States, mentioned in the annual report of the International Labor Office of the League of Nations. The report also made mention of the campaign of the Legion of Decency in the United States.

Hungary.—Catholic Action was making great strides in Hungary, being thoroughly organized in more than 1,700 parishes, it was demonstrated at the 1935 ''Catholic Day'' observances in Budapest. The movement strives for a revival of faith in God and for the advancement of Catholic culture.

Czechoslovakia.—The First All-State Congress of Czechoslovakia's Catholics, held at Prague this summer, was attended by some 500,000 persons. His Eminence, Jean Cardinal Verdier, Archbishop of Paris, whom Pope Pius XI sent as his Legate, said that he would report to the Holy Father ''that I have never seen a more beautiful thing in my life.'' Two other occasions for profound rejoicing in Czechoslovakia were the naming of Archbishop Xavier Ritter as Papal Nuncio to Prague and the elevation of Archbishop Karl Kaspar of Prague to the Sacred College of Cardinals. Application of the *modus vivendi* agreement between the Holy See and Czechoslovakia reached its final stages in 1935.

Jugoslavia.—The conclusion of a Concordat with the Holy See was the highlight of the year 1935 in Jugoslavia, the population of which is 37 per cent Catholic. One hundred and fifty thousand Catholics took part in the Second National Eucharistic Congress, held at Ljubljana, to which His Eminence Augustus Cardinal Hlond, Primate of Poland, was Papal Legate.

Poland.—In the death of Marshal Pilsudski in May, Poland lost a distinguished Catholic statesman who enjoyed a most cordial friendship with His Holiness Pope Pius XI. The Holy Father, learning of the Marshal's death, immediately dispatched a message of condolence to President Moscicki of Poland.

Baltic States.—Lithuania has 1,750,000 Catholics, who are 80 per cent of the population; Latvia has 450,000 Catholics, who are 23 per cent of the population, and Esthonia has 3,000 Catholics, who are less than two per cent of the population, it is revealed by figures made public in 1935 concerning these three Baltic States.

Denmark.—Although the number of Catholics in Denmark now totals only about 25,000, it was said in 1935 that this, the smallest of the Scandinavian countries, is showing the greatest progress in Catholicism. The Catholic population has doubled there in the last 20 years, it was stated.

Norway.—Conversions to the Catholic Church in Norway today are the cause of wide spread interest. While Catholics even now number only a few thousands and were completely ignored some years ago, today any gain by this minority is considered an important increment. There is a decided tendency toward favorable interest in the Catholic Church in Norway today.

Portugal.—When Albert De Oliveira, new Minister of Portugal to the Holy See, presented his credentials to His Holiness, Pope Pius XI, early in 1935, he recalled the merits of Portugal in the history of religion, especially through the diffusion of the Gospel in new countries by Portuguese explorers in the era of great discoveries. The Holy Father replied that the ancient Christian glories of Portugal recalled glorious pages of history and inspired the conviction that they will be continued and confirmed by new merits in the future.

Bulgaria.—Archbishop Giuseppe Mazzoli was named Apostolic Delegate to Bulgaria in 1935, and was consecrated at the Church of the Dormition on Mount Sion, near the Holy Cenacle.

Turkey.—The beginning of 1935 in Turkey saw the application of a law banning the wearing of religious garb outside of church and convents, except by the highest representatives of the various religious groups. The Catholic clergy at once prepared to wear civilian clothes in conformity with the law. Reports stated that a number of congregations of nuns were preparing to leave the country, and that their schools were being closed. The likeness of Sigrid Undset, famed Norwegian Catholic woman writer and Novel Prize winner, was used on one of the stamps issued by the Turkish Government to commemorate the 12th International Congress for Women's Suffrage.

Near East.—At the beginning of 1935, His Beatitude Luigi Barlassina, Latin Patriarch of Jerusalem, had sent to the Governor of Jerusalem a protest against infringements on the rights of Catholics under the *status quo*. His Excellency, the Most Rev. Gustavo Testa, new Apostolic Delegate to Egypt, Palestine, Arabia and Ethiopia, took up his duties early in 1935 and made solemn entrance into the Basilica of the Holy Sepulchre.

Argentina.—When it was announced that Archbishop Copello of Buenos Aires was to be elevated to the Cardinalate, the President of Argentina immediately cabled to the Holy Father saying that "the Catholic sentiment of Argentina and its Government vibrates profoundly at the news." The first anniversary of the International Eucharistic Congress held in Buenos Aires in 1934 was solemnly commemorated. A stone set in the cornerstone of the commemorative monument erected on this occasion was sent to Vatican City by air mail to receive the blessing of the Holy Father.

Brazil.—In presenting his credentials to the Pope, Brazil's new Ambassador to the Holy See, Dr. Luis Guimarses, asked the protection of the Holy Father in his mission, that he may help to strengthen the traditions of friendship between his country and the Holy See. The likeness of Father Jose de Anchieta, S.J., "The Apostle of the New World," was selected to appear in the design of stamps commemorating the fourth centenary of the founding of the city of Sao Paolo.

Bolivia.—In the recent hard trial of war Bolivians revived the flame of Christian Faith received as an inheritance from the founders of their Republic, David Alvestegui, new Ambassador of Bolivia to the Holy See, declared in presenting his credentials to the Holy Father. Learning of the signing of the armistice between Bolivia and Paraguay in the Chaco dispute last July, Pope Pius XI immediately extended his liveliest congratulations to the two countries, and gave his paternal blessing that a new era of peace and collaboration would ensue.

Chili.—Inspired by the success of the Legion of Decency campaign in the United States, Catholics of Chile launched a similar work there.

Colombia.—When the Colombian National Eucharistic Congress was held at Medellin, the Blessed Sacrament was carried to that city from Bogota by airplane. More than 100,000 persons were gathered at the airport when the plane arrived.

Costa Rica commemorated the Jubilee of the Redemption with the erection of a huge statue of Christ the King and chapel on the Mount of the Holy Spirit, which dominates the valley of Alajuela.

Ecuador.—The Government of Ecuador named Bishop Emilio Cecco, Vicar Apostolic of Napo, to be Inspector of Public Health in Napo. The President of the Republic also named the Bishop Honorary Inspector of Public Highway Construction.

Peru.—At the beginning of 1935, Cardinal Pacelli, acting in the name of Pope Pius XI, charged the Papal Nuncio to Peru to convey to the President of that country the expression of the Holy Father's good wishes and assurances of his participation in the observance of the fourth centenary of the founding of the City of Lima. The message noted that the centenary coincided with the fourth centenary of the laying of the cornerstone of the Cathedral of Lima, a splendid testimony to the traditional and profound Catholic Faith of the Peruvian people. Peru's first National Eucharistic Congress, held at Lima, was a profound and impressive manifestation of religious fervor.

Cuba.—Pope Pius XI erected an Apostolic Nunciature to Cuba this year, detaching it from the territory embraced by the Apostolic Delegation to the Antilles. Archbishop George Joseph Caruana, Apostolic Delegate to the Antilles, was named Papal Nuncio to Cuba. This followed Cuba's establishment of diplomatic relations with the Holy See. A week's ceremonies commemorated the 200th anniversary of the founding of the historic Cathedral of Havana, Cuba.

Africa.—Despite the Italo-Ethiopian conflict, Catholic Missions in Ethiopia had suffered no serious difficulty. This, however, did not prevent preoccupation as to the future. Catholics were said to number about 50,000 among Ethiopia's 12,000,000 people. It was revealed Haile Selassie I, Emperor of Abyssinia, was educated in part by Catholic missionaries.

Catholics in Africa have increased from 50,000 to nearly 7,000,000 in the last 75 years, it has been revealed by the new *Handbook of Catholic Missions*. The greatest harvest is being reaped in Central Africa. The conversions in Central Africa for 1932-33 outnumbered by tens of thousands those in any other missionary field. It is believed that the Catholic population of Africa has now passed the 7,000,000 mark. Not only were further converts brought into the fold in Africa in 1935 but also missionaries were able to penetrate for the first time sections of the "Dark Continent" heretofore closed to them. From a number of different sections came reports of warm tributes voiced by civil authorities to the Catholic missionaries, their works and the beneficent influence which they exerted among the natives.

XVII. RELIGION AND RELIGIOUS ORGANIZATIONS

THE EASTERN CHURCH

By Robert Frederick Lau

Church Missions House, New York

THE RUSSIAN CHURCH

Service of Reunion.—On Sunday, Dec. 15, 1935 a great service of reunion took place in the Cathedral of the Holy Virgin, New York City, in which prelates representing the major factions among the Russian Orthodox participated. The Russians of America not included in the new autonomous church comprise perhaps one per cent of the church membership under the recently consecrated Bishop John Kedroff (successor to his father the Rt. Rev. John Kedrovsky) of the Living Church, and Archbishop Benjamin who represents the Acting Locum Tenens of the Moscow Patriarchate. The reunion, largely due to the persevering efforts at home and abroad of a layman, Dr. A. Gierowsky, was the culmination of a series of important events which can be but briefly summarized here.

Theophily—Adam Reconciliation.—In March a conference of bishops called by the Metropolitan Archbishop Theophily effected a reconciliation with the head of the Carpatho-Russian Diocese, Bishop Adam. To him has now been assigned the rank of Archbishop with jurisdiction over Eastern Pennsylvania, while the 50 parishes (chiefly Galician), which formerly acknowledged his leadership, have been incorporated in different dioceses of the church.

In The American Year Book for 1934 (p.643) we noted the beginnings of a rapprochement between the faction which had established itself as autonomous in America and that which accepted a hierarchy under the Metropolitan Antony of Sremsky-Karlovci, Jugo-Slavia. The adherents of the latter group were mostly emigrés who came to America after the Russian revolution. Speaking generally one would say that they were Legitimists who recognized the Grand Duke Cyril as the Czar of Russia. Not very numerous, they were an intelligent and active faction, whose efforts were strengthened by the adherence of Russian Fascists to their side. They recognized Antony because he had officially acknowledged Cyril as Czar.

The group under Theophily, including the majority of Russian Orthodox in America, demanded independence of Karlovci because they did not want to see their Church, existing in America for 140 years, become a political tool of post-war immigrants. On the other hand they insisted on autonomy in relation to the Moscow patriarchate because the church in Russia is not free.

Inasmuch as the situation was not peculiar to America but a source of dissension wherever Russians were to be found outside their native land, Dr. Gierowsky submitted an extensive plan to the Serbian Patriarch Varnava, by which order and unity could be brought about. In February, the patriarch replied that he would call a conference of Russian bishops to consider the plan, provided the Metropolitan Theophily made proper request in writing.

Accordingly the conference met in Karlovci from Oct. 31 to Nov. 19 under the presidency of the Serb Patriarch Varnava, protector of Russian Orthodox in the *diaspora*. There were present the Metropolitan Evlogie from Western Europe, the Metropolitan Theophily from America, Archbishop Anastasy as representative of the Metropolitan Antony of the Karlovci Synod, and Archbishop Dimitry from the Far East (Manchuria). In four plenary sessions protocols were drawn up and signed by all the participants, including the Serbian Patriarch.

New Constitution. — As a result there now is in force a Constitution of the Russian Church outside of Russia. It maintains that the doiceses outside of Russia are a part of the Russian Church and are only temporarily administered as autonomous. In all churches the name of the Metropolitan Peter of Moscow is to be given the place of honor in the Divine Liturgy. The chief executive bodies are the General Sobor of Bishops and the Synod. The Bishops' Sobor includes the prelates of all dioceses but its power is limited by the division of the church into four autonomous Metropolitanates which elect their own metropolitans and bishops. The Synod consists of four members with the Metropolitan Antony (who is seriously ill) holding life-tenure as chairman. In his absence the senior member (Evlogie) will preside. The members of this Synod are elected by the four metropolitanates. The entire church is ''under the protection and supervision of the Serbian Patriarch'', who is submitting the Constitution to the Ecumenical Patriarch and the other Orthodox Patriarchs.

Of course, America is one of the four autonomous Metropolitanates and the new arrangement precludes the sending of bishops or priests to this country without the consent of the Metropolitan. The other autonomous divisions are: Western Europe, the Balkans, and the Far East.

Late in December the American Bishops affected by the new Constitution met in conference in order to consider the advantages and disadvantages of the arrangement. After a careful and sympathetic scrutiny of the document the Bishops decided that certain amendments would be necessary in order to strengthen their position and to allow them an adequate measure of freedom. The conclusions of this conference did not, however, affect injuriously the recently achieved unity. Pending the final form of the Constitution so far as it applies to the American Metropolitanate a *modus vivendi* has been adopted by all in which there is mutual recognition and a definite pledge from each Bishop not to intervene in the parochial affairs of the other Bishops.

HELLENIC ORTHODOX CHURCH

The Sixth General Convention of the Hellenic Orthodox Church in America was held in Boston from Sept. 29 to Oct. 4, 1935 under the leadership of His Grace the Archbishop Athenagoras. About 200 of the clergy and an equal number of the laity attended the sessions. Many resolutions were adopted for the strengthening and extension of the church: the gradual election and consecration of four assistant bishops; greater stabilization of the position of the clergy, who are hereafter to be appointed as rectors for a period of not less than three years; provision for improving the functioning of the Parochial and Sunday Schools of the Archdiocese. The Convention also endorsed the establishment of an orphanage and considered the possibility of a seminary. The use of educational films was proposed.

The Sunday School movement is being actively fostered. An increase of 35 per cent in attendance and membership over 1934 is encouraging. A report to the 1935 Convention showed 200 Sunday Schools in operation with 14,000 children and 550 teachers. Modern systems of instruction and modern devices for arousing the interest of children are being supplied by competent leaders.

New Churches.—Ten new churches were built or acquired and others consecrated by the Archbishop in 1935. The *Orthodox Observer*, a bi-weekly official publication which first appeared toward the close of 1934, is enjoying an increasing circulation.

Ukrainian Diocese.—Many Ukrainian parishes and priests, some of them formerly Uniates, have recognized the spiritual authority of the Ecumenical Patriarchate and are now included in the jurisdiction of the Hellenic Archdiocese of America. A Ukrainian bishop is to be appointed for the administration of a Ukrainian Orthodox Diocese.

SYRIAN ORTHODOX CHURCH

In the Syrian Orthodox Church in America there have been for many years two major groups, one under a Syrian vicar bishop acknowledging the jurisdiction of the head of the Russian Church in America, the other under a bishop appointed by the Patriarch of

Antioch. The former had the priority in point of time, being established when the only Orthodox bishops in this country were Russians. However, the authority of the Antiochene patriarchate carried considerable weight in the United States. The last vicar under the Metropolitan Platon, Bishop Emanuel, died several years ago, and no successor has as yet been appointed. It is possible that the Russians have felt that they had enough difficulties of their own! The presence in the United States of Archbishop Theodosius of Tyre and Sidon, patriarchal delegate of Alexander III of Antioch, to superintend the election of a successor to Archbishop Victor (obiit Sept. 17, 1935), may result in a unification of the Syrians. Late in 1935 the majority of ballots cast seemed to be in favor of the Provisional Patriarchal Vicar, the Rt. Rev. Antony Bashir. Archimandrite Bashir has been in this country for more than a decade.

ARMENIAN CHURCH

In Armenian Apostolic (Gregorian) circles there is a quieter atmosphere than has been apparent for several years. Monsignor Calfayan, acting prelate after the assassination of the Arachnort, Archbishop Leon Tourian, recently returned from Etchmiadzin, Armenia where he had been consecrated to the episcopate. The election of a successor to the late archbishop may await the arrival of a delegate bishop representing the Katholicos Khoren.

RUMANIAN CHURCH

Finally, there should be included in this chronicle reference to an endeavor to place the Rumanian Orthodox Churches on a firmer basis. To accomplish this the Holy Synod has delegated Archbishop Policarp Morusca, who arrived in New York last June. He will preside over approximately 60 parishes.

JUDAISM AND JEWISH COMMUNAL AFFAIRS

By Bernard G. Richards

Director, Jewish Information Bureau

PROBLEMS AND TRIALS OF PERSECUTION

Having recovered, at least in part, from the shock and upheaval suddenly thrust upon the world by the Nazi Government's assault upon German Jewry and other religious groups and having regained a measure of its old equilibrium, the Jewish community in the United States proceeded, during the past year, with its normal activities relating to the furtherance of religious, educational, scholastic and philanthropic interests. Supplementing these were the usual efforts to render relief to the destitute who continue to be the victims of unsettled economic and political conditions abroad, attempts to safeguard the rights of fellow Jews in foreign lands, whose legal status is threatened or actually invaded, assistance to struggling religious and cultural institutions in distant countries, and support to the cause of Jewish national rehabilitation in Palestine, which ancient aspirations, re-enforced by modern emergencies, are fast coming into a pivotal position of all-absorbing interest.

Yet the ruthless determination of the National Socialist rulers in Germany to exterminate a community of 600,000 Jewish souls, while also subjugating or submerging other religious minorities, has brought to a tragic climax the relief and rescue work abroad, giving new justification to the maintenance of emergency and protective agencies, intensifying the feeling of uncertainty and leaving the community so distraught and keyed-up to foreboding eventualities as to militate against normal spiritual, communal development. Attempts to transplant Nazism to the United States, echoes of German bigotry and other manifestations here of Fascism, intolerance and racial hatred have served to lessen the sense of ease and assurance of Jewish leadership even as they have added to the disquietude and anxiety of other religious minority groups.

SPIRITUAL AND MORAL GAINS

At the same time physical sufferings always bring moral awakenings in their train and just as many of the hounded and harrassed Jews of Germany have by the force of searing circumstances been driven back to the deserted synogogues, forgotten institutions of learning and neglected religious ceremonies and observances, so have the Jews of America, and of other lands, begun to see in a new light the synogogues and Hebrew schools, the theological seminaries and other institutions of learning, the educational, publication, cultural and other societies, which have been enumerated and described in a number of previous volumes of THE AMERICAN YEAR BOOK, recognizing that, in an unsteady and uncertain world, these organizations and institutions open the only doors that are left to the things that are eternal.

THE REFUGEE PROBLEM

But unexpectedly confronted with the destruction of one of the most important and most cultured Jewish communities in the world, those who have been charged with the duties of dealing with the problems that the advent of Hitlerism has created, have not yet had time to think of all the implications of the unequalled calamity which is said, among other things, to signify the collapse of a philosophy of Jewish life that was antagonistic to the conception of Jewish national restoration in Palestine. And the paradox of the situation is that Zion now offers to receive the largest number of refugees from the land which presented most vigorous resistance to Zionism. But the question of finding room for all refugees has become a painful and perplexing problem. The stream of emigration from Germany is bound to continue. By the Nuremberg decrees of Nov. 15 the Jews of the Third Reich have literally and legally become people without a country. Reduced to the position of subjects without being citizens, they have obligations without having rights and, by the example of previous acts of lawlessness and brutality, have been placed at the mercy of a system of regimentation and surveillance which is entirely divorced from human considerations.

The *American Jewish Year Book*, 1935, says: ''The result of this constant oppression, aggravated daily, is the ever more desperate refugee problem. It was announced on May 9 by the *Voelkischer Beobachter* that 90,000 Jews had left Germany since Hitler came into power, that the government had collected $25,000,000 in emigration taxes from refugees, of whom 10,000 subsequently returned to Germany. In the spring of 1935, these were placed in special refugee concentration camps or, as the *Voelkischer Beobachter* put it, ''education camps.'' This was confirmed by an announcement of the German Consulate in Palestine on June 19 advising refugees not to return to Germany ''even for a short visit'' as they would be placed in such camps.

The report of Dr. James G. MacDonald, League of Nations High Commissioner for Refugees from Germany, submitted to the Governing Body of the High Commission on July 17, was a full description of the problems raised by the flight of over 80,000 refugees from Germany. He urged that, in order to meet their elementary needs, it would be necessary to have the High Commission supplanted by ''an organization created by the League of Nations as an integral part of the League system.''

The largest number of refugees, 27,000, has been settled in Palestine; 6,000 more have found refuge in the United States, 3,000 in South American countries, and 800 in other overseas countries. Eighteen thousand have been repatriated to countries of Central and Eastern Europe, while 27,500 still remain without any political security in Europe. Dr. MacDonald estimated that approximately $10,000,000 has been raised during the past two years for the relief and rehabilitation of refugees. Of this sum, the Jews of the United States contributed $3,000,000 and the Jews of Great Britain $2,500,000. The organizations for the assistance of academic and intellectual refugees, with the aid of the Rockefeller Foundation, raised approximately $1,500,000. The rest was raised by Jewish and non-Jewish organizations in other countries.

Driven from their homes the German Jews are also deprived of part of their possessions, and their sad plight has become all the more aggravated by the Reich system under which those leaving the country had to pay a ''fugitive tax'' of 25 per cent of their possessions and take out the rest in double the amount of German goods, which they sold abroad as best they could, but actually at dumping prices. A transfer agreement made in connection with refugees going into Palestine became the subject of much controversy and criticism on the ground that it was breaking the boycott of German goods, being carried on by Jews, labor organizations, liberals, Catholics and other groups in this and other countries, and for the further reason that the exchange redounds to the economic benefit of Germany. Nevertheless, such is the pressing urgency of the situation that a more elaborate scheme of systematic emigration on the basis of an official economic arrangement is being discussed. Though this plan is being described as a means of demanding ransom for those who are held in captivity it is hard to predict the outcome of a situation of well-nigh hopeless perplexity. In America the Joint Distribution Committee and the American Palestine Appeal have been most active in dealing with the problem of German-Jewish refugees.

RESIGNATION OF HIGH COMMISSIONER MACDONALD

On Dec. 27, Dr. MacDonald, after two years of strenuous efforts in behalf of the exiles from Germany, tendered his resignation as High Commissioner for Refugees (Jewish and Other) of the League of Nations, stating in his letter of resignation, which surveyed the entire question, that the independent or civil body created by the League could no lnger cope with a problem that has assumed such large and unexpected proportions as to require the official action of the League itself. He at the same time delivered a powerful indictment of the Nazi system of oppressing and subjugating all unfavored or dissident elements of the population.

MAIMONIDES OCTOCENTENARY

From a religious and cultural point of view, the most important event of the year was the celebration universally observed by Jewish institutions of this and other lands of the octocentenary of the birth of Moses Maimonides who was born in Cordova, Spain, March 30, 1135. This occasion was utilized for ''revaluating the life and works of one of the greatest minds produced by Judaism since the close of the Talmud era.'' The celebrations in many cities of the United States were held under the auspices of various central bodies of synogogues, theological seminaries and other religious and educational institutions.

RELIGIOUS AND EDUCATIONAL WORK

The several amalgamations of congregations, representing different shades of belief from the union of Orthodox Congregations to the Union of American Hebrew Congregations, Reform, have gone on with their religious endeavors. The problem of the education of the young from a Jewish religious point of view has as heretofore occupied much attention and effort, the training of teachers and the meeting of school budgets constituting an ever-trying task. Adverse economic conditions have continued to drain the means of social, relief and welfare agencies. But the heaviest burden of all has, on account of the appalling conditions abroad, rested upon the three bodies which usually deal with problems arising out of violations of the political rights of Jews in different lands. These are the American Jewish Congress, the American Jewish Committee and the Bnai Brith. In their efforts to defend the rights of their oppressed brethren they have fortunately found much sympathy and understanding among the enlightened governments and nations of the world, and this has included a number of significant official utterences of representatives of the United States. Notable, too, have been the impressive protests against the German persecutions issued by the leading central organizations of Christian churches in the United States. Leaders of the Christian churches, toward the end of the year, also banded together for the purpose of raising a fund for the benefit of the refugees, both Jewish and Christian.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

NATIONAL CHURCHES

American Theosophical Society, "Olcott," Wheaton, Ill.
American Unitarian Assn., 25 Beacon St., Boston, Mass.
Board of Direction of the General Synod of the Reformed Church in America, 25 E. 22nd St., New York City.
Christian Science Church, 11 W. 42nd St., New York City.
Congregational Christian General Council, 287 Fourth Ave., New York City.
Freethinkers' of America, Inc., 317 W. 34th St., New York City.
Friends' General Conference of the Religious Society of Friends, 1515 Cherry St., Philadelphia, Pa.
General Conference of Seventh-Day Adventists, 6840 Eastern Ave., N. W., Takoma Park, Washington, D. C.
General Council of the Presbyterian Church in the U. S. A., 156 Fifth Avenue, New York City.
National Lutheran Council in America, 39 E. 35th St., New York City.
Nationalist Spiritual Assn., 600 Penn Ave., S. E., Washington, D. C.
Northern Baptist Convention, 152 Madison Ave., New York City.
Society for Ethical Culture of New York, 2 W. 64th St., New York City.
Union of American Hebrew Congregations, Merchants' Building, Cincinnati, Ohio.
Union of Orthodox Jewish Congregations of America, Amsterdam Ave. & 186th St., New York City.
United Lutheran Church in America, 39 E. 35th St., New York City.
United Synagogue of America, Broadway and 122nd St., New York City.
Universalist General Convention, 16 Beacon St., Boston, Mass.
Vedanta Society, 34 W. 71st St., New York City.
Volunteers of America, 34 W. 28th St., New York City.

INTERNATIONAL ORGANIZATIONS

Association for the Promotion of Christian Unity, Chamber of Commerce Bldg., Room 412, Indianapolis, Ind.
Baptist World Alliance, Bates College, Lewiston, Me.
Central Bureau of Evangelical Churches in Europe, 105 E. 22nd St., New York City.
Committee on Cooperation in Latin America, 254 Fourth Ave., New York City.
Committee on Friendly Relations Among Foreign Students, 347 Madison Ave., New York City.
Continuation Committee of World Conference on Faith and Order, P. O. Box 226, Boston, Mass.
Ecumenical Methodist Conference, 720 Omaha Bank Building, Omaha, Neb.
International Assn. of Daily Vacation Bible Schools, 100 E. 42nd St., New York City.
International Assn. for the Promotion of Liberal Christianity and Religious Freedom, 25 Beacon St., Boston, Mass.

INTERNATIONAL CONGREGATIONAL COUNCIL, 287 Fourth Ave., New York City.

INTERNATIONAL EVANGELISTIC BUREAU OF THE U. S. A., 1111 Walnut St., Cairo, Ill.

INTERNATIONAL SOCIETY OF CHRISTIAN ENDEAVOR, 41 Mt. Vernon St., Boston, Mass.

LUTHERAN WORLD CONVENTION, 39 E. 35th St., New York City.

NATIONAL PEACE CONFERENCE, 8 W. 40th St., New York City.

NEAR EAST COLLEGE ASSN., INC., 18 E. 41st St., New York City.

RELIGIOUS EDUCATION ASSN., 59 E. Van Buren St., Chicago, Ill.

UNIVERSAL CHRISTIAN COUNCIL ON LIFE AND WORK, 105 E. 22nd St., New York City.

WESTERN SECTION OF ALLIANCE OF REFORMED CHURCHES THROUGHOUT THE WORLD HOLDING THE PRESBYTERIAN SYSTEM, 1012 Witherspoon Bldg., Philadelphia, Pa.

WORLD STUDENT CHRISTIAN FEDERATION, 347 Madison Ave., New York City.

WORLD SUNDAY SCHOOL ASSN., 1 Madison Ave., New York City.

WORLD UNITY FOUNDATION, 4 E. 12th St., New York City.

INTERCHURCH ORGANIZATIONS

AMERICAN SUNDAY SCHOOL UNION, 1816 Chestnut St., Philadelphia, Pa.

CHAPLAIN'S AID ASSN., 401 W. 59th St., New York City.

CHURCH PEACE UNION, 70 Fifth Ave., New York City.

CONFERENCE OF THEOLOGICAL SEMINARIES AND COLLEGES IN THE U. S. A. AND CANADA, Lancaster, Pa.

COUNCIL OF CHURCH BOARDS OF EDUCATION, 111 Fifth Ave., New York City.

EPWORTH LEAGUE OF THE METHODIST EPISCOPAL CHURCH, 740 Rush St., Chicago, Ill.

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA, 105 E. 22nd St., New York City.

FELLOWSHIP OF CHRISTIAN COOPERATION, 50 W. Broad St., Columbus, O.

FELLOWSHIP OF FAITHS, 315 Fourth Ave., New York City.

FELLOWSHIP OF RECONCILIATION, 2929 Broadway, New York City.

FREE CHURCH OF AMERICA, 25 Beacon St., Boston, Mass.

NATIONAL COUNCIL OF PROTESTANT EPISCOPAL CHURCHES, 281 Fourth Ave., New York City.

NATIONAL COUNCIL ON RELIGION IN HIGHER EDUCATION, 437 West 59th St., New York City.

THREEFOLD MOVEMENT, 315 Fourth Ave., New York City.

AUXILIARY ORGANIZATIONS

CATHOLIC CHURCH EXTENSION SOCIETY OF THE U. S. A., 180 N. Wabash Ave., Chicago, Ill.

CATHOLIC GUARDIAN SOCIETY, 485 Madison Ave., New York City.

CATHOLIC PROTECTIVE SOCIETY, 477 Madison Ave., New York City.

CHURCH LEAGUE FOR INDUSTRIAL DEMOCRACY, 154 Nassau St., New York City.

COMMUNITY CHURCH WORKERS OF THE U. S. A., THE, 1302 Chicago Temple, 77 W. Washington St., Chicago, Ill.

INSTITUTE OF SOCIAL AND RELIGIOUS RESEARCH, 30 Rockefeller Plaza, New York City.

LORD'S DAY ALLIANCE, 156 Fifth Ave., New York City.

NATIONAL CONFERENCE OF JEWS AND CHRISTIANS, 105 E. 22d Street, New York City.

WOMAN'S CHRISTIAN TEMPERANCE UNION, Evanston, Ill.

WOMAN'S NATIONAL SABBATH ALLIANCE, 156 Fifth Ave., New York City.

YOUNG MEN'S CHRISTIAN ASSN., 347 Madison Ave., New York City.

YOUNG MEN'S HEBREW ASSN., 71 W. 47th St., New York City.

YOUNG WOMEN'S CHRISTIAN ASSN., 600 Lexington Ave., New York City.

YOUNG WOMEN'S HEBREW ASSN., 71 W. 47th St., New York City.

RELIGIOUS PUBLICATIONS

AMERICAN BAPTIST HISTORICAL SOCIETY, Upland Ave., Chester, Pa.

AMERICAN BAPTIST PUBLICATION SOCIETY, 1701 Chestnut St., Philadelphia, Pa.

AMERICAN BIBLE SOCIETY, Bible House, New York City.

American Tract Society, 7 W. 45th St., New York City.

Chicago Tract Society, 440 S. Dearborn St., Chicago, Ill.

Gideons, 202 S. State St., Chicago, Ill.

National Testament and Tract League, 200 Kellogg Bldg., Washington, D. C.

Pocket Testament League, 156 Fifth Ave., New York City.

Religious Education Assn., 308 N. Michigan Ave., Chicago, Ill.

Society for the Propagation of the Faith, 462 Madison Ave., New York City.

MISSIONARY

Agricultural Missions Foundation, 419 Fourth Ave., New York City.

American Board of Commissioners for Foreign Missions, 14 Beacon St., Boston, Mass.

American McAll Assn., 112 S. 16th St., Philadelphia, Pa.

American Mission to Lepers, 156 Fifth Ave., New York City.

Christian and Missionary Alliance, 260 W. 44th St., New York City.

Committee of Reference and Council, 419 Fourth Ave., New York City.

Council of Women for Home Missions, 105 E. 22nd St., New York City.

Federation of Women's Boards of N. A., 419 Fourth Ave., New York City.

Home Missions Council, 105 E. 22nd St., New York City.

International Missionary Council, 156 Fifth Ave., New York City.

Missionary Education Movement of the United States and Canada, 150 Fifth Ave., New York City.

National Council of Jewish Women, 625 Madison Ave., New York City.

Near East Relief, 149 Fifth Ave., New York City.

Student Volunteer Movement for Foreign Missions, 254 Fourth Ave., New York City.

Woman's Union Missionary Society, 67 Bible House, New York City.

PART SIX

SCIENCE—PRINCIPLES AND APPLICATION

DIVISION XVIII

ASTRONOMY

ASTRONOMY AND ASTROPHYSICS

By Henry Norris Russell

Professor, Princeton University

OBSERVATORIES AND INSTRUMENTS

The David Dunlap Observatory of the University of Toronto was dedicated in May 1935. The principal instrument is a 74-inch reflector, which, at the time of writing, is the second largest in commission. Dr. R. K. Young, who succeeds Dr. C. A. Chant as director, plans an extensive campaign on radial velocities of faint stars.

The 82-inch reflector of the MacDonald Observatory of the University of Texas is well under way. By mutual agreement, it is to be operated by astronomers from the Yerkes Observatory.

The disk for the 200-inch mirror has been found satisfactory after the months of cooling and annealing were ended, and the engine for grinding and polishing it is being set up at Pasadena. The 120-inch testing mirror is ground flat, but not yet polished. An observatory site on Palomar Mountain about 90 miles from Pasadena and 30 miles from the coast has been secured, and preliminary construction is under way.

INTERNATIONAL ASTRONOMICAL UNION

The International Astronomical Union held its biennial meeting at Paris in July. Dr. Esclangon, director of the Paris Observatory, was elected president, Dr. W. S. Adams of Mount Wilson, one of the vice presidents. The next meeting will be at Stockholm in 1938.

THE SUN

The new sun-spot cycle is well advanced. Spots are appearing in increasing numbers and of larger size. A group 88,000 miles in length was observed in August. The study of the solar spectrum is entering upon a new phase. The older qualitative analysis, which was concerned mainly with the exact positions of the lines and the identification of the substances to which they were due, has almost completed its task. New identifications are still being made as the spectra are better observed in the laboratory—for example, of silicon lines in the red and infra-red. A very thorough study of the spectrum of ionized iron (Fe^+) by J. C. Dobbie has led to the identification of a large number of new iron lines in the Sun. Several thousand faint lines are still unidentified. Most of these probably arise from band-spectra due to compounds which are not completely decomposed even at the Sun's high temperature.

The newer spectrum analysis is quantitative and works mainly with the intensities of the lines. Rowland's original estimates of these intensities—made rather roughly on an arbitrary scale—have proved of very great value in the preliminary determination of the composition of the Sun's atmosphere. It is now possible to measure with some precision the intensity of a line, that is, the amount of light which it cuts out of the spectrum. The extreme range of the intensities, measured in this way, is about 4,000 to 1. The disproportion in the numbers of atoms which are active in producing the line is much greater.

The relation between line-width and number of atoms is fairly complicated. For strong lines the width is proportional to the square root of the number: for very weak lines, to the number itself. There is an intermediate region in which a considerable increase of the number strengthens the line very little. The "curves of growth" which define this relation differ somewhat for different elements. When once they have been determined, line-widths may be translated into numbers of atoms. Exact determination of these curves is now delayed by lack of good laboratory measures of the relative numbers of atoms which are at work on the many lines of a complex spectrum like that of iron, but these are in progress.

If the Sun or a star had a solid surface covered by a uniform atmosphere, a precise analysis of the latter could be made, but the apparent "surface" is formed by a gradually increasing haze, or fog, due to the presence of electrons and charged atoms. The opacity of this fog and consequently the depth to which we can "see" may be different for light of different colors. In the Sun these differences do not appear to be great.

The preliminary investigation, based on a calibration of Rowland's estimates, shows that the relative abundance of the metallic elements is very similar in the Sun and in the Earth. Hydrogen, however, forms by far the greater part of the Sun's atmosphere, and the other light atoms, such as helium and carbon, appear also to be more abundant in the Sun than on Earth. Lithium and beryllium are very rare in both. The nuclei of these two elements are the most easily broken up by collisions with other particles. Encounters of the requisite violence will not occur in the Sun's atmosphere, but in the intensely hot interior they well may.

THE PLANETS

Reports on asteroids must necessarily refer to last year as the present year's discoveries will not be fully tabulated until well on in 1936. The number of new planets reported in 1934 was 374, but orbits sufficiently accurate to justify inclusion in the permanent list could be completed for only 37, increasing the number to 1301. They are all faint objects, only one being brighter at best than the 12th magnitude.

Adel and Slipher have identified five additional faint bands of methane in the spectra of the major planets, raising the total to 41. The very heavy bands in Neptune indicate a quantity of methane sufficient to form a layer 25 miles thick at ordinary atmospheric pressure.

The four large planets have atmospheres containing hydrogen compounds. For the Earth, Venus and Mars, oxygen, carbon dioxide and water vapor are in evidence. Mercury has a very tenuous atmosphere, if any, and the Moon none because with its small mass it has not enough gravitational attraction to hold it on. The major planets can retain even the lightest gases and presumably have atmospheres composed largely of hydrogen; the middle-sized planets have lost their hydrogen, but retained heavier gases.

COMETS

Four comets were discovered in 1935. The first has a period of about 800 years. The third is a return of a periodic comet observed in 1927. The second and fourth were both found upon photographic plates exposed for other purposes; they are faint and have large perihelion distances between 350 and 400 million miles. All four were invisible to the unaided eye.

STAR DISTANCES

The measurement of stellar parallaxes by the direct trigonometrical method (a refinement of ordinary principles of surveying) continues actively. Determinations for more than 400 stars were published during the year. For objects within about 50 light-years this is the most accurate method of measuring distance. The number of such stars is limited, but a good deal remains to be done, especially among faint stars of large proper motion. Near neighbors of the Sun, within 20 light-years, are still being discovered.

The spectroscopic method, which determines the star's real brightness from a detailed study of its spectrum and then the distance from its apparent brightness, now gives values with a probable error of about 15 per cent, which is better than the direct method for distances exceeding 50 light-years. It is, however, applicable at present only to the cooler stars of spectral types F to M. Adams, Joy, Humason, and Miss Brayton have recently published a list of spectroscopic parallaxes of 4,179 stars representing 20 years' work at Mount Wilson, the largest single contribution to the subject ever made. At least 100,000 more stars must be accessible by this method with existing instruments. To observe them all would occupy several great telescopes and a corps of astronomers for a generation.

SPECTRA

The cataloguing of the spectral types of the fainter stars continues actively at Harvard and also at Bergedorf, where Schwassmann has recently completed and published a catalogue of 24,095 stars. For the brighter stars spectra can now be obtained upon a scale almost comparable with that of Rowland's classical photographs of the solar spectrum, and thousands of lines studied in a single star. The theoretical interpretation of these spectra is following the same course as for the Sun. The general characteristics of practically all types of spectra are now well understood, and the differences between various types of stars can be interpreted as consequences of differences in the temperature and the intensity of gravity at the surface. The latter form the basis of the spectroscopic determination of distance. It appears that, for the cooler stars, and again for the hottest, the depth from which the light comes is nearly the same for different wave-lengths, but for the A-stars this is not so. The atmosphere is much more foggy for red light than for blue. The blue and violet light therefore comes, on the average, from deeper and hotter layers and in consequence the stars look bluer than they would otherwise do. The estimates of stellar temperature, based on their color, therefore, give pretty good values in general, but are too hot for such stars as Sirius and Vega. The old estimates of 11,000° or thereabouts should be reduced to about 9,000°. The great width of the hydrogen lines in the spectra of these stars is not due mainly to its abundance (for almost all stellar atmospheres probably contain more than 90 per cent of hydrogen) but to the influence upon the atoms of the electric fields of neighboring electrons or ions, hydrogen being peculiarly sensitive to this "Stark effect." Pannekoek and Verwey have calculated from pure theory what the lines should be like, and find an excellent agreement with observation. The greater the surface gravity, the denser will be the atmosphere, and the more the hydrogen lines will be widened. In white dwarfs, such as the companion of Sirius, these lines are enormously wide, which affords an independent proof of their small size and high density.

Kuiper, at the Lick Observatory, searching among the nearer stars, has discovered five of these remarkable bodies, raising the number now known to eight. They must be more numerous, for equal volumes of space, than the stars of any type visible to the naked eye.

The quantitative composition of the stars can be determined in the same way as for the Sun—with the same complications. In general the stars appear to be remarkably similar in composition. The most notable exception is among the reddest and coolest stars, where the spectral sequence splits into two branches—one (Class M) containing more than 95 per cent of the stars, and characterized by bands of metallic oxides (principally titanium) and two others (Classes R and N) characterized by bands of carbon compounds. It has long been recognized that this arises from excess of oxygen above carbon, in the first case, and the reverse in the second. Among the hotter stars (when the compounds are decomposed) the differences should be much less conspicuous and no carbon stars were known till this year, when Berman found that, in R Coronae Borealis, the lines of atomic carbon are exceptionally strong. Why this star, which is normally of the order of 1,000 times the Sun's brightness, loses more than 99 per cent of its light at irregular intervals is not yet known, but some of the few other stars whose light varies in the same way show the bands of carbon compounds in these spectra. The very remarkable star R Aquarii has been thoroughly studied by Merrill. Its spectrum appears to contain three independent components: an ordinary long-period variable of low temperature and class M7e: a very hot star, also variable, of spectrum Bep, and a gaseous nebula. It appears probable that there are really two stars, which vary independently in brightness—sometimes one, again the other, predominating—and that the radiation from the hot star excites the nebula to shine.

THE NEBULAE

The spectra of gaseous nebulae are now almost completely understood. Neon and argon have been detected in them by the presence of ''forbidden'' lines which are emitted only when the gas is of exceedingly low density. The most recent addition to the list is chlorine identified by Stoy from two faint lines in the green (5538 and 5518). These are forbidden lines of the doubly ionized atom. This is the first observational evidence of the presence of chlorine outside the Earth. All the first 32 elements in order of atomic number have now been detected in astronomical bodies. Failure to find most of the rest may be attributed to the fact that their ''sensitive'' spectral lines are not in accessible regions: a few, such as rhenium and radium, must actually be very rare.

NOVA HERCULIS

One of the most remarkable temporary stars on record was discovered by an English amateur, J. P. M. Prentiss, on Dec. 13, 1934. It was situated in the northern part of the constellation Hercules, and when first observed was of the third magnitude, but rose steadily to magnitude 1.5 on Dec. 23. From this maximum it dropped gradually, with irregular fluctuations, to $4^{m}.5$ on April 1st; fell precipitately almost to the tenth magnitude on April 9, and decreased to $12^{m}.9$ by April 27. In 10 days began a gradual and steady increase of brightness which carried it back to the eighth magnitude in the latter part of June, near which brightness it has since remained. Harvard photographs of earlier years show that (like other novae) the star was visible for 40 years before its outburst, as a very faint object of photographic magnitude 14.6. The last plate showing it faint was obtained on Nov. 14, 1934, after which date it was too low in the west after sunset to be within the region covered by the regular ''sky patrol.'' The relatively slow rise, long continuance in maximum, and brightening after a deep minimum, are all paralleled by Nova Aurigae of 1892. At the time of discovery the star was approaching conjunction with the Sun, but its high northern declination, 45°, permitted observations both after sunset and before sunrise at most observatories, and an unusually full and continuous record of its behavior has been secured.

Its spectrum at discovery resembled those of other novae in showing greatly widened bright lines of hydrogen and ionized metals accompanied by a great number of absorption lines greatly displaced toward the violet from their normal positions. At maximum the emission lines were faint and the absorption lines very strong and numerous, the spectrum resembling that of Alpha Cygni. About this time a second absorption spectrum with remarkably sharp lines, more displaced to the violet than the first, appeared and remained visible for three months. It included lines both of neutral and ionized metals and resembled that of Epsilon Aurigae. The hydrogen and calcium lines were more complex, showing at times as many as six compounds, all displaced toward the violet.

These phenomena are explicable on the general hypothesis that, during the outburst, the star ejected great clouds of gas at high velocities. The portions which happened to lie directly between us and the central body produced the absorption lines in its spectrum, displaced to the violet by their approach, while the rest of the ejected matter, part of which was moving toward us and part away, produced the wide emission bands. In Nova Aquilae (1918) the main part of the ejected material formed a nearly continuous spherical shell which finally became visible telescopically as a steadily expanding nebula surrounding the star, but in the present instance it seems that it formed irregular patches, several of which, moving at different rates, were in front of the star at once and produced the complex absorption lines. The first mass to be observed had the smallest speed which diminished from 250 to 160 kilometers per second in 10 days. The velocity of the main mass, which gave the strongest lines, increased slowly from 320 to 400 km/sec. The minor masses showed motions up to 1100 km/sec. The slow changes in the spectrum were in general what might be expected from an expanding mass of gas. At first the lines of neutral atoms—iron, carbon, oxygen, etc.—were prominent, and for a few days the bands of cyanogen—a compound, whose later disappearance is a natural result of dissociation with diminishing density.

The absorption spectrum remained prominent until the end of March, and then disappeared as the star's light faded, obviously because there was no longer a continuous background strong enough to show it. The bright lines remained visible, showing strong displacements toward the violet, as would happen if the nearer, approaching parts of the ejected material showed more brightly than the receding ones behind the star. At this stage the ''permitted'' and ''forbidden'' lines of ionized iron were both present, but as the star's brightness decreased, the latter, which are characteristic of a gas of very low density, predominated. The forbidden lines of neutral oxygen, which appear in terrestrial aurorae, had already been visible for some time.

When the star brightened after its deep minimum, the spectrum had changed completely, and resembled that of a gaseous nebula, with forbidden lines of oxygen, nitrogen and neon, as well as ordinary lines of hydrogen. The large shifts in position continued, indicating motion at substantially the same speed, but the remoter side of the expanding sheet of gases increased in brightness. The continuous spectrum had disappeared, indicating that the central star had ceased to give out much visible light. It must, however, have radiated very strongly in the far ultra-violet, thereby exciting the visible luminosity of the gaseous envelope.

On July 4 Kuiper, at the Lick Observatory, found the nova to be double, with the sharply defined components separated by 0".2. Both of these show the emission spectrum and are presumably the brightest parts of the ejected sheet of gas.

The ''detached'' lines of calcium, produced by absorption by ionized atoms of the element scattered thinly through interstellar space, are present in the spectrum of the Nova, with moderate strength. This indicates a distance of the order of 1,500 light-years, which would make the Nova, at maximum, about 50,000 times as bright as the Sun and comparable with the brighter among other galactic novae.

This is but a summary (and simplified) sketch of a huge mass of observational data, which should keep astrophysicists busy for a long time to come.

VELOCITY OF LIGHT

The last work of the lamented Michelson was a new determination of the velocity of light, by the rotating-mirror method. To avoid difficulties arising from the turbulence of the air the light was passed back and forth through a tube three feet in diameter and a mile long from which the air was exhausted down to 1/1000 of ordinary atmospheric pressure. By repeated reflections between plane mirrors at the ends of the pipe the observed path was increased to eight or 10 miles.

The observations were completed after Professor Michelson's death by Pease and Pearson. The mean value derived from 2,885 determinations is 299,774 kilometers per second. Discrepancies, sometimes amounting to 15 km/sec, between the results obtained on different days are still unexplained.

COLD BODIES IN SPACE

A mass of matter, left to itself in space until it has radiated away all its available energy, will presumably come to some final permanent state. For a small body, such as a meteorite or a planet as big as the earth, there is no question that this would be an ordinary solid mass, cooled to the absolute zero of temperature. For masses comparable with even the smallest stars the situation is quite different. The atoms in the interior are ionized completely, forming a cloud of electrons and atomic nuclei which themselves are so small that an enormous total mass could be packed into a very small volume. Under stellar conditions a limit is set to this process by the same quantum-laws which (in another application) determine the size and structure of atoms, and the contracting star approaches a certain ''degenerate'' state beyond which no further shrinkage is possible. The greater the mass, the smaller will be its diameter in this final condition.

When the velocities of the electrons approach that of light, the analysis becomes more complicated. Chandrasěkhar has given an exact solution of the problem and concludes that for masses less than a certain limiting value (depending on the molecular weight) the body will have a limiting radius, but that larger masses may shrink indefinitely, that is, beyond the power of present-day analysis to follow them. Eddington questions this conclusion, but both agree that the greater the mass the smaller it will ultimately become. Now, for ordinary solid bodies such as rocks or planets, the limiting size is obviously larger the greater the mass. It follows that, for some mass intermediate between the planets' and the Sun's, there must be a maximum size of the final configuration, and that completely cold bodies larger than this cannot exist anywhere in the universe. The limiting mass must be roughly about one per cent of the Sun's and the limiting size about the present dimensions of Jupiter or Saturn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Astronomical Society, University Observatory, Princeton, N. J.

Mathematical Assn. of America, Oberlin, O.

National Academy of Sciences, 2101 Constitution Ave., N. W., Washington, D. C.

Science Service, 2101 Constitution Ave., N. W., Washington, D. C.

DIVISION XIX

ENGINEERING AND CONSTRUCTION

STRUCTURAL ENGINEERING

By Whitney C. Huntington

Head of Civil Engineering Department, University of Illinois

GENERAL

A marked improvement in the economic status of structural engineering and the construction industry occurred during the year. Editorial comment in the *Engineering News-Record* states that ''As the old year ends, the figures show that the remarkable 1935 rise in private construction continues without a break. Both industrial and residential construction nearly double their 1934 levels. These fields not only furnish the bulk of normal construction activity but also control in importance because they reflect the transformation of savings into productive wealth—the governing mechanism of business.'' The same trend is indicated in a report issued by Dun and Bradstreet at the close of the year which states that: ''Even though government expenditures for public works and utility projects were smaller in 1935 than in 1934, building continued to expand in most parts of the country. Following the moderate rise in 1934 from the all time lows of 1933, the progress made during the current year has brought substantial proof that a definite revival in building has started.''

During the year, the highest dam of any type in the world which creates the reservoir with the greatest capacity, and the second largest auditorium in this country, were completed; construction continued on the largest earth-fill dam and the largest rock-fill dam and the longest-span bridge ever constructed and the longest-span cantilever bridge in the United States; construction started on a concrete arch bridge and a hingeless steel plate girder arch bridge which surpass in span all bridges of these types yet constructed; on a canal for ocean-going vessels which is to be twice as long as the Suez Canal, four times as long as, and requires twice as much excavation as, the Panama Canal; on a highway which it is hoped will eventually connect Alaska and South America, and on a plant to generate power from the tides. These and other projects are briefly described in the paragraphs which follow.

STORAGE DAMS

Boulder Dam.—On Sept. 30, 1935 Boulder Dam was dedicated by President Roosevelt. The dam was completed more than two years ahead of schedule and the power houses and outlet works were nearing completion at the close of the year. Storage of water was started on Feb. 1, and since that time the valley below has been protected from floods and large quantities of water are being stored in addition to the water released for irrigation in the Imperial Valley. This project, with its concrete arched-gravity dam with a height of 729 ft. above the foundations and 584 ft. above the water level and a volume of 3,400,000 cu. yd., is described in THE AMERICAN YEAR BOOK for 1934. The U. S.

Bureau of Reclamation is in charge of the project.

The Parker Dam, a concrete arch dam 320 ft. high above the foundation, is being constructed about 150 miles below Boulder Dam by the U. S. Reclamation Bureau for the Metropolitan Water District of Southern California to form a reservoir from which water will be pumped into the intake of the Colorado River Aqueduct and conveyed 300 miles to Los Angeles and vicinity. Work was started on the dam late in 1934 but the Governor of Arizona soon sent state militia to prevent any further progress on the Arizona side. The entire project was stopped in April, 1935, when the United States Supreme Court ruled that the dam was not legally authorized when it was approved by the President without the consent of Congress. This consent was included in the Rivers and Harbors Bill which was signed by the President, and work was resumed on Aug. 31, 1935. The estimated cost of the dam is $13,000,000.

Fort Peck Dam.—The salient features of the project are the dam height of 250 ft., crest length of 9,000 ft. and volume of 100,000,000 cu. yd.; a reservoir with a capacity of 20,000,000 acre-feet; four diversion tunnels with a finished diameter of 26 ft. and a combined length of five miles to carry the river flow after the river channel is closed and to serve as outlets in the completed structure, and a 9,000-ft. steel sheet piling diaphragm driven to shale under the dam, a record depth of 161 ft. having been attained on part of the diaphragm. The progress which has been made on this outstanding project is well summarized editorially in the *Engineering News-Record* for Nov. 19, 1935, in these words: ''Those in charge at Fort Peck in one short season piled up the greatest volume of earth ever accumulated by man in so short a space of time. Some 22,000,000 cu. yd. of fill was placed in less than six months, and though Fort Peck is less than 25 per cent complete, the fill now exceeds that of Gatun Dam, long the world's largest earth structure.'' The project is to be completed in 1939.

Grand Coulee Dam.—During the year, the plans for the Grand Coulee Dam on the Columbia River in northwestern Washington, as described in the THE AMERICAN YEAR BOOK, for 1934, p. 662, were changed very greatly. Instead of building a low dam, which might later be incorporated in a much higher dam, it was decided to start immediately on the base for the dam whose height is to be 540 ft. and crest length 4,100 ft., and instead of making power development the primary function of the initial project, it will now serve only to regulate the flow of the river. The ultimate development is to be an irrigation structure with power developed only for pumping the irrigation water into the Grand Coulee and to supply the needs of the territory to be irrigated. The *Engineering News Record* for Aug. 1, 1935 said: ''It is one of the greatest construction operations of all time, and this operation is being carried on with a speed and vigor and an ingenuity of attack that make it extraordinary.'' When the ultimate development is completed the dam will be about 200 ft. lower than the Boulder Dam but three times as big in volume as that dam, which is now the largest concrete or masonry dam in the world by a wide margin. At the close of the year nearly 18,000,000 cubic yards of material had been excavated or nearly three times the quantity at Boulder Dam, and the concreting work started on Dec. 6 is planned to reach an average of 12,000 cu. yd. per day in comparison with the 6,000 cu. yd. average at Boulder Dam.

San Gabriel Dam.—Construction work was resumed in July on San Gabriel Dam No. 1 which is being built for the Los Angeles County Flood Control District, after having been shut down for nearly nine months on account of a revision of plans which was made to permit using material that had to be wasted under the original specifications. The new plans require 9,000,000 cu. yd. of rock fill instead of 5,000,000 cu. yd. as in the original plans, making this dam the largest rock-fill dam in the world. Its height is 300 ft. and its crest length is

1,670 ft. The cost of the dam is to be about $13,000,000.

Central Valley Project Dams.—Work has recently started on the Central Valley project in California with a $15,000,000-allotment provided by the Works Progress Administration and to be expended under the direction of the U. S. Reclamation Bureau. It is proposed to control the San Joaquin River by constructing a dam 252 ft. high at Friant to store 400,000 acre-feet of water and to control the flow of the Sacramento River by constructing a dam 420 ft. high near Kennett to store 3,000,000 acre-feet of water. This development, which is estimated to cost about $160,000,000, will supply water to the San Joaquin Valley where, because of the lowering of the ground-water level, productive farms and orchards have been abandoned; will reduce the infiltration of salt water from San Francisco Bay into the lower valley during the low water stages of the Sacramento River; will improve navigation and will control the flood waters of these rivers. Hydro-electric developments of 325,000 kva capacity at the Kennett reservoir and 30,000 kva capacity at the Friant reservoir are not now contemplated but are included in the ultimate development.

Casper-Alcova and Seminoe Dams.—These dams are located near Casper, Wyoming. The contract for the Casper-Alcova Dam was awarded Aug. 29 but the successful bidder for the Seminoe Dam refused the contract because the delay in awarding the contract exceeded the specified limit of 60 days and because, in his opinion, conditions for construction were not as favorable at the later date. The project was readvertised, with minor changes, and bids were opened on Nov. 26, 1935. Little progress was, therefore, made during the year on these structures.

Muskingum Valley Dams.—The Muskingum Watershed Conservency District has been created in the valley of the Muskingum River in Ohio for the primary purpose of flood control. The plan calls for the construction of 13 earth-fill dams and one concrete solid-gravity dam, varying in height from 60 ft. to 130 ft., for flood control and conservation. Some of the quantities involved in the entire project are: man hours of labor, 15,000,000; earth excavation, 10,000,000 cu. yd.; rock excavation, 1,000,000 cu. yd.; earth embankment, 9,000,000 cu. yd. not including 5,000,000 cu. yd. of railroad grading; rock fill, 700,000 cu. yd.; concrete 400,000 cu. yd. It is expected that all construction work will be completed during 1936 but approximately 15 per cent of the work may not be completed until 1937. The total cost of the project is estimated as $35,000,000. The project is being carried on under the direction of the Corps of Engineers through its office at Zanesville, O.

Norris Dam.—The concrete work is about completed on the 253-ft. Norris Dam on the Clinch River in the Tennessee Valley which is described in the THE AMERICAN YEAR BOOK for 1934, p. 663. This dam is a straight concrete gravity section structure 253 ft. high and 1,846 ft. long at the crest with an earth fill section 302 ft. long which will create a reservoir with a storage capacity of 3,400,000 acre-feet and is being constructed to store water to use to control floods and to increase the minimum depth and flow of the Tennessee River for navigation and power purposes. The dam was started Oct. 3, 1933, and is scheduled to be placed in commercial operation Aug. 1, 1936. It is being constructed by the Tennessee Valley Authority.

The Chambon Dam on the Romanche River in southeastern France is a concrete gravity-section structure 450 ft. high above the foundation and 290 ft. high above the stream bed. The crest length is 930 ft. and the volume of 392,000 cu. yd. The dam was constructed to store water to serve power plants with a total capacity of 100,000 horsepower. The Chambon Dam is the highest dam in the world outside of the United States. Its height above the foundation is exceeded by Boulder Dam by 273 ft.

NAVIGATION LOCKS AND DAMS

Bonneville Lock and Dam.—Work is progressing according to schedule on the Bonneville Dam, Lock and Powerhouse Bradford Island on the Colum-

CHARACTERISTICS OF OTHER STORAGE DAMS

Name	Location	Type	Major Purposes	Height Feet	Volume Cu. Yd.	Storage Acre Ft.	Cost[2] Dollars
Conchas....	New Mex.	Undecided[1]	Irrig. & W. S.	240	....	800,000	9,000,000
Tygart.....	W. Va.	Concrete	Fld. Cont. & Nav.	232	1,100,000	330,000	15,700,000
Taylor Park	Colorado	Earth Fill	Irrigation	......	....	....	2,400,000
Pine-View..	Utah	Earth & Gravel	Irrig. & W. S.	......	265,000	45,000	3,000,000
Cajalco....	Calif.	Earth Fill	Water Supply	194	7,000,000	100,000	5,000,000
El Capitan .	Calif.	Rock Fill	Water Supply	240	2,700,000	110,000	2,300,000
El Vado....	New Mex.	Gravel Fill	Irrigation	174	....	200,000	....
Wrightsville	Vermont	Earth Fill	Flood Control	......	860,000	....	1,350,000
East Barre .	Vermont	Earth Fill	Flood Control	......	275,000	....	650,000
Waterbury .	Vermont	Earth Fill	....	......	2,200,000	....	2,500,000

[1] Solid Gravity Section.
[2] Total cost including canals, pipe lines, etc.

bia River about 40 miles above Portland, Ore. The main dam is a massive concrete overflow structure and is being constructed in the north channel while a power house and ship lock will close the south channel. This project is being carried on by the Corps of Engineers of the U. S. Army.

Pickwick Landing Lock and Dam.—Construction was started in March by the Tennessee Valley Authority on the Pickwick Landing Dam on the Tennessee River, 207 miles above its junction with the Ohio River and 53 miles below Wilson Dam. It is being constructed to improve navigation by creating a pool, which extends to Wilson Dam, for flood control and for power although none of the power units will be included in the initial development. The total storage capacity is 807,000 acre-feet of which 416,000 acre-feet are available for flood control. The dam consists essentially of a hydraulic-fill earth section on the south side 4,682 ft. long; a navigation lock section; a concrete gravity overflow section 1,156 ft. long; a concrete gravity bulkhead section 266 ft. long; and finally an earth dike 890 ft. long; on the north side, making a total length of 7,715 ft. The maximum height from the foundation to the top of the piers is 110 ft. This dam will create a navigation channel extending to Wilson Dam with a minimum depth of nine ft. and, with Wheeler and Wilson Dams, will provide a channel with a minimum depth of seven ft. for 358 miles from the junction with the Ohio River to Guntersville, Alabama. The total cost is estimated at $36,000,000,

Wheeler Lock and Dam.—This dam is being constructed by the Tennessee Valley Authority on the Tennessee River 275 miles above the junction with the Ohio and 16 miles above Wilson Dam. The navigation lock which adjoins the dam was started in January, 1933 by the Corps of Engineers of the U. S. Army before the creation of the Tennessee Valley Authority, and it is being completed under the direction of the Nashville, Tenn. office of the Corps of Engineers. The lock was practically completed at the beginning of the year and no further work was done. The total cost of the lock is estimated as $1,676,000. The dam is a concrete gravity type with an overall length of 6,335 ft. including the lock and powerhouse and a gate-controlled overflow section 2,700 ft. long. The maximum height from the foundation to the top of the piers is 72 ft. The total storage capacity of the reservoir will be 1,050,000 acre-feet with 500,000 acre-feet available for flood control. The initial power capacity is to be 32,400 k. w. The dam was started in November, 1933 and the project is expected to be placed in commercial operation Nov. 1, 1936. The total cost is estimated as $28,000,000.

Chickamauga Dam.—The construction of a dam on the Tennessee River near Chattanooga, Tenn. was approved on Dec. 31 by the Board of Directors of the TVA. This is to be a $30,000,000-project and construction will begin early in 1936.

Upper Mississippi River Locks and Dams.—Work is progressing rapidly on several locks and dams on the Mississippi River above St. Louis which, with those that have already been completed on this portion of the river, will provide a navigable channel with a minimum depth of nine feet between Minneapolis and St. Paul and the Gulf of Mexico. In order to provide this channel, locks and dams are required at 26 points between St. Louis and St. Paul, the function of the dams being to raise the water level and that of the locks, to enable vessels to pass each dam and to overcome the difference in water level above and below the dam. The total cost of this development is estimated at about $150,000,000; the work completed at the end of 1935, at $35,000,000, and the work under construction at the close of the year, at $37,000,000. The normal lift of the locks varies from a maximum of 38.2 ft. at Keokuk, Iowa, and 33.95 ft. at Minneapolis, to a minimum of 5.5 ft. at Winona, Wisconsin; the more common lifts varying from 8 to 11 ft. In general, the locks are 110 ft. wide and 600 ft. long except auxiliary locks which are 360 ft. long, however, the twin locks at St. Paul are only 56 ft. by 400 ft. The length of the river from St. Paul to St. Louis is 650 miles. This work is being carried on by the U. S. Corps of Engineers through the office at St. Paul, Minnesota, Rock Island, Illinois, and St. Louis, Missouri.

Allegheny River Locks and Dams.—Work was completed in July on lock and dam No. 3 on the Allegheny River 15 miles above Pittsburgh, replacing an old lock and dam which was obsolete in size and condition. In September, work was started on Lock and Dam No. 9 on this river 62 miles above Pittsburgh and is to be completed in January, 1937. The Dam extends the dependable 9 ft. navigable depth to East Brady, Penn. The cost of these two projects is estimated as $3,700,000. The maximum normal lift for the nine locks is 18 ft. and the minimum 7 ft., most of the lifts being about 12 ft. This work is being carried on under the direction of the Pittsburgh office of the Corps of Engineers of the U. S. Army.

Ohio River Locks and Dams.—Work is progressing on the Montgomery Island Locks and Dams on the Ohio River 32 miles below Pittsburgh and is to be completed in March of next year at an estimated cost of $5,500,000. This structure replaces obsolete locks and Dams No. 4, 5, and 6. The normal lift of the twin locks is 19.4 ft. Work started in August of this year and is to be completed in October 1937 on the New Emsworth Dam located on the Ohio River six miles below Pittsburgh. This dam will increase the lift through the old locks at this point from 11 to 18 ft. and will extend the upper pool five miles up the Allegheny River and nine miles up the Monongahela River, thereby eliminating locks and dams No. 1 in each river. The estimated cost is $3,000,000. The Gallipolis Locks and Dam now being constructed on the Ohio River 12 miles below the mouth of the Kanawa River will replace existing dams Nos. 24, 25, and 26. The normal lift of the locks is 26 ft. and the total cost of the project is estimated as $8,215,000. The Montgomery Island and New Emsworth projects are being constructed under the direction of the Pittsburgh office of the Corps of Engineers of the U. S. Army and the Gallipolis project under the direction of the Huntington, W. Va. office.

Kanawha River Locks and Dams.—The Kanawha River in West Virginia is being improved for navigation purposes by the construction of the London, Marmet and Winfield Locks and Dams, 85, 68 and 31 miles respectively above the junction of this river with the Ohio and the Gallipolis Locks and Dam on the Ohio River 12 miles below this junction. These locks and dams will replace 10 such structures on the Kanawha River and three on the Ohio River, and will provide a navigation channel with a minimum depth of nine ft. instead of the minimum depth of six ft. provided by the older project which was completed in 1898. The estimated cost of the entire improvement, which was begun in 1931 and is to be completed in 1938, is $22,000,000. The expenditure to the end of 1935 has been $14,000,000. This project is being carried on under the direction of the Corps of Engineers of the U. S. Army through its office at Huntington, W. Va.

Cumberland River Locks and Dams.—On the 191-mile stretch of the Cumberland River between Nashville, Tenn. and the junction of the river with the Ohio, six existing dams are being surmounted with movable crest gates to increase the navigable depth of this part of the river from six to nine ft. This work was begun in June of last year and completed at the close of the present year, at a cost of about $700,000. The total cost of the project is $4,200,000. This work was carried on under the direction of the Nashville, Tennessee, office of the Corps of Engineers of the U. S. Army.

Savannah River Lock and Dam.—A lock and dam is being constructed near Augusta, Ga. as a part of a project to provide a navigation channel with a minimum depth of six ft. in the Savannah River for a distance of 195 miles from Savannah Harbor to Augusta, Ga. The total cost of the lock and dam is estimated at $1,100,000. Work started in October, 1934 under the direction of the Savannah office of the Corps of Engineers of the U. S. Army and is scheduled for completion in December, 1936.

Cape Fear River Locks and Dams.—Work was started in January, 1934 and completed in September, 1935 on the raising of Lock and Dam No. 1 three feet; repairing Lock and Dam No. 2, and constructing Lock and Dam No. 3 on the Cape Fear River in North Carolina to provide a minimum of navigable depth of eight ft. from Wilmington to Fayetteville, a distance of 115 miles. The work was done under the Wilmington, North Carolina, office of the Corps of Engineers of the U. S. Army at a cost of $1,200,000.

BRIDGES

Golden Gate.—The towers have been completed and cable-stringing operations begun for the Golden Gate Bridge, which is of the suspension type with two 36½-in. cables, has a main span of 4,200 ft. and is the longest-span bridge in the world by a wide margin. It is scheduled for completion in 1937 at a cost of $35,000,000.

San Francisco-Oakland Bay.—Cable spinning is under way on this bridge with its two suspension spans of 2,310 ft. each, in the clear, and a total length of the two suspension bridges of 9,260 ft. which spans the west channel between Yerba-Buena Island and San Francisco. The east channel, from the island to Oakland, is crossed by a cantilever bridge with a central span of 1,400 ft. and a series of simple truss spans. This cantilever span is the longest of its type in the United States but is exceeded by the 1,800 ft.-span Quebec Bridge in Canada and the 1,700 ft.-span Forth Bridge in Scotland. This bridge is described more fully in THE AMERICAN YEAR BOOK, 1933, p. 674, and 1934, p. 664. It is scheduled for completion late in 1936 at a cost of $78,000,000.

Triborough Bridge.—The Triborough Bridge spans Hell Gate in New York City, with a clear suspension span of 1,380 ft., loaded backstay spans each 705 ft. long, and a total length of bridge of three and a half miles. The bridge connects the Boroughs of Queens, Manhattan, and the Bronx, passing over Ward's and Randall's Islands, Hell Gate, Little Hell Gate, Harlem River and Bronx Kills. The suspension structure is carried by two cables 20.6 in. in diameter in comparison with the two 28.8 in.-cables of the San Francisco-Oakland Bay Bridge, the two 30 in.-cables of the Delaware River Bridge, the two 36½ in.-cables of the Golden Gate Bridge and the four 36 in.-cables of the George Washington Bridge. The roadway provides for eight lanes of highway traffic on a single deck. At the close of the year the towers, anchorages, cables and floor steel of the East River crossing, the piers and floor steel of the Queens approach and the viaducts over Ward's and Randall's Islands and Little Hell Gate were completed. The entire project is estimated to cost $44,000,000. It is being built by the Port of New York Authority and is scheduled for completion in the summer of 1936.

Henry Hudson Parkway Bridge.—Construction started during the year on the Henry Hudson Parkway Bridge over the Harlem River ship canal in New York City. The bridge is a hingeless arch structure, with a length of 2,055 ft., 800 ft. span, and with two box-plate-girder arch ribs, of silicon steel, 12½ ft. deep 3 ft. 8 in. wide and spaced 50 ft. center to center. The rise of the arch is 120 ft. and the clearance over the canal 140 ft. The structure is planned to be a double-deck eventually but only the lower deck which provides a 42 ft.-roadway and a sidewalk is to be constructed at present. The bridge is being constructed for the Henry Hudson Parkway Authority and is financed by a $3,100,000 bond issue which will be retired by a toll of 10 cents which is estimated to produce a gross revenue of $350,000 in its first year of operation. It is said to be the longest span bridge of its type ever constructed.

Rip Van Winkle Bridge.—The Rip Van Winkle Bridge which crosses the Hudson River near the towns of Hudson and Catskill, N. Y. was opened to highway traffic on July 2. This bridge is a steel cantilever structure with a main channel span of 800 ft., anchor arm of 400 ft. and a total length of 5,040 ft. It carries a 30 ft.-roadway and provides a vertical shipping clearance of 142 ft.

New Orleans Bridge.—This steel cantilever bridge over the Mississippi River at New Orleans, with a center span of 790 ft., two anchor spans of 530 ft. and a total length of over 4 miles, was officially opened Dec. 16 and named the Huey P. Long Bridge. The bridge carries two railroad tracks between the trusses which are 33 ft. apart and an 18 ft. highway cantilevered out from each side. The long approach structure was made necessary by the required shipping clearance of 135 ft. The project was financed by the Reconstruction Finance Corporation at a cost of $13,000,000. The Southern Pacific Railroad, which uses the bridge, pays toll but the highways are free.

Davenport Bridge.—The highway suspension toll bridge across the Mississippi River between a point three miles north of Davenport, Ia. and Moline, Ill., was opened to traffic Nov. 18. The main suspension span of this bridge is 740 ft., the side spans each 370 ft., the total length 5,552 ft. and the shipping clearance 60 ft. above high water. A 20-ft.-roadway and a 4-ft.-sidewalk are provided. The bridge was constructed for the Davenport Bridge Commission at a total cost of about $1,500,000 and was financed by PWA.

South Omaha Bridge.—A continuous-truss toll bridge with two 525 ft.-spans is being constructed at Omaha, Neb., across a channel to which the Missouri River is being shifted. The bridge is being built for the Omaha Bridge Commission and is financed by a $1,650,000 PWA loan and grant. It will avoid the 19 railroad grade crossings involved in the route which it replaces.

Oregon Coast Highway Bridges.—The five remaining bridges required to complete the Oregon Coast Highway have been under construction during the year. The total cost of $5,500,000 will be retired in 28 years from the toll receipts.

BUILDINGS

San Francisco Mint.—The general contract for the construction of a new United States Mint in San Francisco was awarded in July for $935,000. Being located in an earthquake region, the effects of earthquake shocks were given serious study in the design of this building. It is a three-story structure with a frontage of 208 ft. on Duboce Avenue and a depth of 185 ft. The structural frame is steel encased in concrete and the floors, roof and walls are reinforced concrete.

Kansas City Auditorium.—The new Municipal Auditorium for Kansas City, Mo. was completed during the latter part of the year, at a cost of $4,650,000. It occupies an entire block bounded by 13th and 14th streets, Wyandotte and Central Streets and is 291 ft. by 418 ft. in plan. The building is divided into two major units, *i. e.,* a theater which seats 3,000 persons and an auditorium which seats 14,000 persons, the seating capacity of the latter being exceeded in this country only by the Atlantic City auditorium. In the same unit with the theater are three halls, each of which accommodates 1,000 persons, and a large number of smaller rooms. The structural frame is of steel and reinforced concrete, both the theater and the auditorium being entirely free from columns.

Supreme Court Building.—The United States Supreme Court met in its new building for the first time on Oct. 7. This building is of classical architecture to correspond with the other Federal buildings in Washington. The building is 385 ft. by 304 ft. in plan. The court room is 82 ft. by 91 ft. and seats 238 persons. The building contains 455,000 cu. ft. of marble which is said to be more than is contained in any other public building.

Rockefeller Center.—The Palazzo d'Italie and the International Building, the seventh and eighth units of the Rockefeller Center, were opened to the public on May 1. The new tower is 38 stories in height in contrast to the nearby 70-story R. C. A. Building. The total office space in these units is about 830,000 sq. ft.

Montana Earthquake. — Serious damage was caused to buildings in Helena, Montana, by earthquake shocks which began on Oct. 11 and continued until Oct. 31. The most conspicuous damage was that to two school buildings, one of which, a new modern fireproof structure which had never been occupied, was completely wrecked.

Skyscraper Heights.—The Merchants Association of New York City has recommended to the city officials that the height of buildings be limited and that more open space be provided around the buildings. This recommendation is made only four years after the close of the most active period of skyscraper construction the city has ever experienced which culminated in the construction of the 1,250 ft. 85-story Empire State Building. That the spirit which led to skyscraper development is not dead, however, is indicated by the proposal coming from Henri Rush of St. Louis for a 195 story building which would house about 250,000 people and would cost 233 million dollars. When considering the possibility of such a structure ever being built, one must remember the sudden jump in span length of bridges from the Ambassador Bridge, which set the world's record in 1929 with a clear span of 1,850 ft., to the Golden Gate Bridge, which is to be completed eight years later, with a clear span length of 4,200 ft. Buildings have not yet approached the structural limit in height. Other factors will govern their height.

TUNNELS, AQUEDUCTS, CANALS AND TIDAL POWER

Midtown Hudson Tunnel.—Excellent progress has been made during the year on the 6,000-ft. Midtown Tunnel under the Hudson River at New York City. The tunnel was holed through on Aug. 2, two months ahead of schedule. At the end of the year, shield operations had been completed and the concrete lining was being placed; the shafts for the New Jersey and the New York ventilating buildings were complete; construction was about one-fourth completed on the New York land sections of the tunnel, and contracts had been awarded for the construction of 785 ft. of rock tunnel in Weehawken and for the plaza at the same location. The overall dimension of the shield is 31 ft. in comparison with 29 ft. 6 in. on the Holland Tunnel. However, the largest subaqueous tunnel yet constructed is the Mersey Tunnel completed in 1934 under the Mersey River between Birkenhead and Liverpool, England, with an outside diameter of 46¼ ft., an inside diameter of 44 ft. and providing a 36 ft.-roadway for four lanes of traffic in comparison with the 21½ ft. roadway for two lanes of traffic in the Midtown Tunnel. The tunnel is scheduled for completion early in 1938. It is being constructed by the Port of New York Authority.

East River Tunnel.—A proposal to construct a tunnel under the East River at 38th Street in New York City is being seriously considered, and plans for financing and construction were well under way at the close of the year. The estimated cost is $58,000,000. It is expected that a grant of $11,000,000 and a loan of $47,000,000 will be secured from the PWA.

Coast Range Tunnel.—Completed during the latter part of last year, the Coast Range Tunnel in California, with its uninterrupted length of 25.2 miles, is said to be the longest tunnel in the world, not considering an additional section 3.4 miles long. This tunnel is one link in the 155-mile aqueduct of the Hetch Hetchy Water Supply for San Francisco. The total length of tunnels on this project is 82 miles. The tunnel is concrete-lined, has a diameter of 10½ ft. and a capacity of 200,000,000 gallons per day. Most of the length is in soft sandstone, crystal shale, and crushed achist formations. Considerable difficulty was caused by the very high rock pressures exerted on the timbering, by hydrogen sulphide and methane gas, and by quicksand.

Colorado River Aqueduct.—The Colorado River Aqueduct, which is being constructed by the Metropolitan Water District of Southern California, will divert 1,500 cu. ft. per second of water near Parker, Ariz., 150 miles below Boulder Dam, for delivery to Los Angeles and adjacent cities 300 miles distant, and will cost $220,000,000. The main aqueduct, from Parker Reservoir at the east end to Caljalco Reservoir at the west end, is 242 miles long. In addition to this aqueduct there is an extensive distribution system in the metropolitan area. The project and its extensions include tunnels, mostly 16 ft. in diameter, aggregating 107 miles in length, the longest single tunnel being 18.3 miles in length; 65 miles of concrete-lined canal; 80 miles of covered-concrete conduit; 40 miles of concrete or steel pressure pipe lines, several reservoirs, five pumping stations and a 237-mile power transmission line. In the first 125 miles, the water will be lifted a total of 1,605 feet by the pumping stations, containing 200 cubic-feet-per-second pumps, the highest lift being 444 feet. From the elevation thus attained, the flow is by tunnel through the Coast Range. Power will be supplied to the pumps from Boulder Dam over the transmission line at 230,000 volts. Parker Dam, of the arch type, which will have an over-all height of 320 ft. and raise the river level 72 ft., is the largest single structure involved. The Cajalco and Parker Dams, are described more completely elsewhere in this section.

All-American Canal Project.—Formal ceremonies were held on Dec. 16, 1934 near Laguna Dam on the Colorado River to inaugurate work on the $27,000,000 All-American Canal, one of the major features of the Boulder Canyon Project. This canal is being constructed to supply irrigation water to the Imperial Valley in California from the Colorado River and to replace the canal which now serves that purpose but is partially located in Mexico. The new canal system consists of a diversion dam across the Colorado River about five miles upstream from the Laguna Dam; a desilting works; a main canal about 80 miles long paralleling, and just north of, the Mexican border for the last 57 miles of its length, and the Coachella Branch Canal, about 130 miles long, which branches off from the main canal near its mid-point and runs in a northwesterly direction to irrigate area north of the Salton Sea. The total cost is estimated at $38,500,000. The complete development of the canal system will provide for the irrigation of about 850,000 acres by gravity and an additional 200,000 acres by pumping, including the 500,000 acres of the Imperial Irrigation District most of which have been under cultivation for many years. The initial capacity of the canal is 15,000 cu. ft. per second but the size is reduced as diversions are made along its length until a minimum of 2,500 cu. ft. per second is reached at the end of west side main canal. The initial capacity of the Coachella Branch Canal is 2,000 cu. ft. per second. The bottom width is 130 ft., the depth of water is 16½ ft. and the side slopes are 2 to 1 at the maximum section of the main canal. This project is being carried on under the direction of the U. S. Bureau of Reclamation with funds provided by the PWA.

Atlantic-Gulf Ship Canal.—Construction is under way on the 195-mile sea level Atlantic-Gulf Ship Canal across the northern end of the Florida Peninsula which will require the construction of ten or more bridges with clear spans varying from 300 ft. to 540 ft. and vertical clearances of 135 ft. Work was started on one of these bridges late last year and studies are under way on the other bridges. Nearly 600 million cu. yd. of earth and rock are to be excavated in constructing this canal which is over twice the quantity that was removed from the Panama Canal. The maximum cut will be 141 ft. The estimated cost, exclusive of the right of way is $143,000,000. Advantages claimed for the canal are that it will save from one to three days' time on shipping bound to Gulf ports from the North Atlantic and European ports; that it will permit shipping to avoid the hurricane belt and the dangerous reefs that add to the hazards of the present route via the Florida Straits; and that it will be desirable from a naval and military point of view. No toll will be charged for the use of the canal. The initial allotment of 5 million dollars for beginning the construction of the canal was made from relief funds on September 3 of this year. The work is being carried on under the direction of the Corps of Engineers of the U. S. Army through its office at Ocala, Florida.

Cape Cod Canal Project.—The Cape Cod Canal project now under construction by the Corps of Engineers of the U. S. Army involves the widening of the canal from 100 ft. to 540 ft., the deepening of the canal from 25 ft. to 32 ft., the construction of two highway bridges and one railroad lift bridge, the dredging of a new approach channel in Buzzards Bay and the dredging of mooring basins at each end. The highway bridges were completed during the year and the railroad lift-bridge which, with its span of 544 ft., is the longest span bridge of its type in the world was completed in December. The canal was widened to 205 ft. during the year and the east and west moorings were dredged. This canal crosses the base of Cape Cod in Massachusetts and provides a shorter and more sheltered route for shipping between Portland, Maine and Boston, on the north, and New York, Philadelphia and other southern ports. The total estimated cost is $32,000,000. The time of completion of the project depends upon the rate at which funds are supplied and has not been decided upon.

Chesapeake-Delaware River Canal.—The Chesapeake and Delaware River Canal, constructed about a century ago, was originally a small lock canal. It is gradually being changed into a sea-level canal with a minimum navigable depth of 27 ft., a bottom width of 135 ft., and a top width of 250 ft. under the direction of the Corps of Engineers of the U. S. Army. This canal, which is 14 miles long, connects the heads of the Chesapeake and Delaware Bays and when improved will provide a short sheltered route for large vessels to traverse between Norfolk and Philadelphia instead of the present long and hazardous open-sea route.

Lake Okeechobee Project.—The $17,000,000 project inaugurated by Act of Congress in 1930 to improve the Caloosahatchee River and Lake Okeechobee drainage areas of Florida is nearing completion after an expenditure of over $5,000,000 this year. The primary object of this project is to control the waters of the lake by providing the necessary levees and control works. Lake Okeechobee is located at the northern edge of the Everglades in southern Florida, about midway between the coasts. The project provides for the construction of 66 miles of levee with its top 17 ft. above the normal lake level, the construction of hurricane gates, locks, spillways and culverts, and makes possible the discharge of 5,000 cu. ft. of water per second to the Atlantic Ocean through the St. Lucie Canal and 2,500 cu. ft. per second through the Caloosahatchee River to the Gulf of Mexico, and it creates a navigation channel, with a controlling depth of eight ft. across the state from the Atlantic to the Gulf. The work is scheduled for completion in June, 1937. It is being done under the direction of the Corps of Engineers of the U. S. Army through its office at Jacksonville, Fla.

Passamaquoddy Bay Tidal-Power.—This project is designed to develop hydro-electric power from water which enters Cobscook Bay, an arm of the Bay of Fundy in Maine, during high tide and is to be discharged to the sea through the turbines of the tidal-power plant as the tide recedes. Cobscook Bay will be cut off by a series of dams, a power house, a sluice-gate structure and a navigation lock. The gates will permit the filling of the basin at high tide and, as the tide changes, a difference of elevation of five and a half ft. or more will occur between the surface level of the water in the basin and that of the sea. The pool will be filled again through the sluice-gate structure at the next high tide and the operation will continue. The tidal power must be generated in accord with the tidal changes regardless of the demand for the power. In order to utilize the power as it becomes available, water is pumped by surplus power into an adjacent storage reservoir which is to be provided and which will have a surface elevation 130 ft. above sea level when filled. Power is to be generated during the shut-down periods of the main-tidal station by an auxiliary hydro-electric station which makes use of the stored water. In this way, steady power can be furnished as the demand requires instead of the intermittent power which would be supplied by the tidal-power plant above. An initial installation of 200,000 horse-power, with a provision for an ultimate installation of 400,000 horse-power, in the main power station and 150,000 horse-power pumping capacity and 80,000 horse-power generating capacity in the pumped-storage plant, are to be provided. The cost is estimated at about $50,000,000 and the time of completion as the end of 1938. The project is being so constructed as to be adaptable to a much larger two-basin international development embracing Passamaquoddy Bay in Canada which may be constructed at some future time. An initial allotment of $10,000,000 has been made from relief funds for this project. The work is being carried on under the direction of the Corps of Engineers of the U. S. Army, through its office at Eastport, Maine.

PUBLICATIONS

Current news concerning structural engineering projects may be obtained from the *Engineering News-Record*, the *Western Construction News*, *Construction Methods* and the *Architectural Forum*, all of which have been useful in the preparation of this review. The *Annual Report* of the Chief of Engineers of the United States Army gives complete data and a summary of this work for the current year. The *Annual Report* of the Bureau of Reclamation presents detailed information concerning the work of that outstanding Bureau. The documents cover the period ending June 30 and do not become available until sometime during the following year. *The Reclamation Era*, published monthly by the U. S. Bureau of Reclamation, contains current information on the projects of the Bureau.

MECHANICAL ENGINEERING

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GENERAL

Funds for research in mechanical engineering were still limited, and the past year, therefore, has shown relatively few additions to knowledge in this field. By comparison, however, the upturn in those branches of business with which mechanical engineers are chiefly concerned has been very gratifying, and this improvement, especially in the capital goods industries, has been the stimulator of much progress in the details of machine tool construction and operation.

The automobile manufacturing companies have continued to lead the industrial recovery and their orders have been the main explanation of the improved operating rate for the steel mills. In other depressions, the railroad and construction requirements have pulled the mills away from the low point. But those orders affected only the steel mills. When the automobile business flourishes, on the other hand, not only is steel benefitted but machine tools and many other lines.

MACHINE TOOLS

The end of the industrial codes, many of which had paragraphs limiting the extension of plant capacity and the installation of labor-saving machines, was a boon to many of the capital goods industries. With the great increase in allowable cutting speeds made possible in recent years by the newer alloys and cemented carbides, much replacement of machine tool equipment was certain to take place when code restrictions were removed and prospects for orders improved. The machine tool builders anticipated this condition and were prepared to catch the potential buyers by an unusually well-planned and conducted exhibition at Cleveland in September. This was the first show of this kind since 1929. But orders came even before the show, and many exhibitors were already behind in deliveries before the results of the Cleveland demonstrations were felt. Machines were designed for the higher cutting speeds and equipped with improved control devices, both features increasing production. At the same time greater precision of operation has been secured. It was interesting to the mechanical engineer to find that not all the new controls were electric but that hydraulic and pneumatic devices had been extensively used. Throughout all the new machines low-friction bearings were used.

In connection with the operation of these new machine tools the first handbook on *The Cutting of Metals with Single-Pointed Paring Tools* will be of especial value. In preparation for more than three years, this book will assemble all the available data on the cutting of metals, including the results of much new research under the Committee on Metal Cutting of the American Society of Mechanical Engineers. The Engineering Foundation has generously supported much of this work and has assumed part of the cost of the handbook. One of the recent developments made necessary by the introduction of the super-hard cemented carbides for cutting tools has been the diamond-impregnated wheel for shaping them.

Research on the strength of gear teeth, which is, of course, of great importance to the machine tool builders, has taken the form during 1935, of tests on the surface fatigue of metals. So far the tests have involved rolling only, but it is hoped to study combined rolling and sliding contact at a later date. The tests "indicate a tendency of an outer lamina of material to travel by plastic flow in the direction of rolling, and also for this lamina to start to shear under the surface".

During the year the American Standard for Screw Threads was formally approved by the American Standards Association, and standards for socket set screws, jig bushings and steel flanges also received official sanction. Of more general interest and importance to designers was the adoption during the past year of Standards for Drawings and Drafting Room Practice. It is expected that standards for Graphical Symbols will soon be added to the approved list and together these pamphlets will form the official guide for American designers and draftsmen.

STEAM POWER GENERATION

Historically the year 1935 marks the death, on March 14, of Richard Mollier at Dresden. Every student of thermodynamics and every steam power operator has used Mollier's total-heat-entropy diagram or chart, first published in 1904.

At the Massachusetts Institute of Technology further research has led to a slight modification of the equation of steam. Other experimental work on steam has produced new statistical material without changing any of the fundamental equations. Data have been secured on the viscosity of water from 212 deg. F. up to and including the critical temperature and on the viscosity of steam at pressures up to 3,500 lb. per sq.in. and at temperatures up to 1,000 deg. F.

The tendency in power plant design continues in the direction of the use of steam at high pressures and superheats without reheating. Improved materials and greater knowledge of the qualities of metals under high temperatures have made this possible. The trend, therefore, is toward the simplification of equipment and installations.

The diphenyl-steam cycle received further discussion during the year but no American installations were reported. On account of the regenerative feature this cycle has remarkably high theoretical efficiency, higher than the Carnot efficiency between the same temperature limits. For example, a cycle between limits which could reasonably be expected in actual power plant operation has a theoretical efficiency as high as 57 per cent.

The visit of Dr. Adolphe Meyer to the United States last summer to deliver the first Calvin Rice Memorial Lecture at the Cincinnati meeting of the American Society of Mechanical Engineers called attention to the Velox steam generator. As far as the writer knows there has been no installation in this country but a number of units have been built for European power plants and are operating at high efficiencies. The particular characteristic of these generators, however, which makes them distinct from other boilers, is their ability to meet increased loads rapidly. Even when starting cold, a Velox generator (hence the name) can be operating under full load conditions in less than five minutes. Liquid or gas fuel is burned under pressure in the evaporator. The gases then pass through the superheater to a gas turbine where they give up much of their energy in driving a blower which in turn supplies air for combustion. The exhaust gases from the turbine escape through the feed water heater which forms part of the chimney, their final temperature being about 200 deg. F. The power developed in the gas turbine is 20 to 25 per cent of that developed by the boiler, and due to the compression effect in the blower the air is supplied for combustion at a temperature in the neighborhood of 300 deg. F. The blower, therefore, replaces an air preheater. The Velox steam generator with oil as fuel will operate at efficiencies of 90 per cent or higher. Units have been built up to a generating capacity of 150,000 lb. of steam per hour. Increased attention has been paid to the design of plants where both power and heat have to be produced. Various solutions of the problem are possible; for example, the installation of a reciprocating steam engine operating at very high pressure, the exhaust steam being used for industrial purposes, or some ingenious type of bleeder turbine.

DIESEL ENGINES

Increase in the use of the Diesel

engine for railroad and ship transportation continued during the year, and it is probable that in the near future greater application will be made in the field of bus and truck power plants. At least two American manufacturers are studying the Diesel engine for passenger car service, although no general application of this type of motor to automobiles seems to be an immediate possibility. A few railroads have modified existing steam equipment to compete on high speed runs with the Diesel-powered locomotives of other lines. Interesting developments in this engineering competition may result in the next few years.

Coal-dust motors, of interest to German engineers, have received little attention, except editorially, in this country. In Germany a number of tests have been carried out to determine causes and methods of elimination of wear of cylinders of such motors and a precombustion chamber has been developed which is reported to reduce wear materially.

Alcohol as a power fuel for engines of any type has been discussed but little during 1935. This is probably due to the higher prices for corn which is the source usually considered for this fuel. The grain price is already high enough to make the use of alcohol in competition with petroleum products very much less attractive than it was two years ago.

One of the largest Diesel engines ever built was tested in Germany in 1935. The eight cylinders are capable of a continuous output of 11,400 brake horsepower at 136 r.p.m. The maximum output reached on test was 13,700 brake horsepower. The engine is double acting and uses the two-stroke cycle.

AUTOMOBILES

Moderate streamlining of automobile bodies was continued by most manufacturers, but no radical designs were introduced. The airflow models of two years ago were not copied by other makers. The automatic gear shift introduced by one company in recent years has not proved sufficiently popular to warrant adoption generally. While there is no doubt of the convenience of this device, apparently gear shifting does not prove especially difficult for most drivers and there has not been public demand for its elimination. Hydraulic brakes have become practically standard equipment and the shifting of passengers forward in the car for more comfortable riding has been incorporated in most body designs. Overdrive, introduced automatically, that is, without gear shifting by the driver of the car, is likely to prove popular. The slower motor speed at high road speeds should improve gasoline mileage and reduce wear. It has not invariably been true, however, that the gasoline mileage has been increased. The really fundamental change of placing the engine at the rear of the car is being intensively studied by automobile designers in this country. If adopted, this arrangement will involve new body styles and passenger location, which will radically change the general appearance of motor vehicles. (See also "Automotive Engineering," p. 645.)

AVIATION

During 1935 further research on the flow of air from fans and similar apparatus has been carried on by means of high speed photography combined with the stroboscope. While not directly connected with aviation, the data which have been secured should prove of value to designers of propellors and rotors.

A new type of heavier-than-air machine known as the Kay direct-control gyroplane was finished and tested in England. The gyroplane is similar to the autogiro with a single important exception; the angle of incidence of the rotor blades can be changed while the rotor is in motion. This makes a direct rise from the ground the usual method of starting flight. The technique is simple. With the brakes on, the rotor, with blades flat, is brought up to a speed of 400 r.p.m. by the same motor which will also later drive the propeller. The angle of incidence of the rotor blades is then suddenly increased which produces a strong vertical lift. The speed of the rotor decreases to 220 or 250 r.p.m. while the gyroplane is raised vertically 10 or 20 feet. In the meantime the motor of the plane is delivering power to the propeller which establishes horizontal motion in the usual way. If control of the plane is not made difficult by the large horizontal rotor it would seem that the gyroplane marks a distinct advance in overcoming the difficulties and dangers of the takeoff. (See also ''Commercial Aviation,'' pp. 510-515)

HYDRAULICS AS APPLIED AT PASSAMAQUODDY

The most important, because unique, hydraulic power installation for many years came a step nearer realization during 1935 when an appropriation or allocation of Federal funds was made for the construction of the so-called Passamaquoddy tidal power project. Deriving its title from the Indian name for the bay at the eastern boundary line of the United States this project has been urged by its engineer-advocate for many years. An important condition militating against the adoption of the plan has been the improbability of securing sufficient market for the power to make the project financially attractive to private capital. Under the auspices of the Federal Government that difficulty is not a deterrent.

Original plans called for the use of two basins, Passamaquoddy and Cobscook Bays, with the hydraulic turbines in the separating dam. One basin would be kept at a relatively high level by opening gates from the ocean at each high tide. The other basin would be kept at a correspondingly low level by opening similar gates at low tide and permitting the water which had driven the turbines during the past six hours to escape to the sea.

The present plan requires the use of only one basin and for the purpose of avoiding international complications, Cobscook Bay has been chosen. The layout of dams and the location of the power plant will be such that the two-basin arrangement can be used at a later date without waste of construction. Cobscook Bay will be made a low level pond of 30 or 40 square miles by means of dams connecting various islands and points near its mouth. The pond will be emptied at each low tide. When the ocean level has risen to a height of five feet above the water level in the pond the turbines will be started and water will be discharged into the pond. As the tide rises and falls from 20 to 25 feet at this point on the Atlantic coast the turbines will operate under a variable head of from five to 20 and back to five feet again. Twice a day, near the hours for low tide, it will not be possible to operate the plant. To maintain twenty-four hour service it is proposed to use pumped storage for these periods. Some 15 or 18 miles from Cobscook it is planned to build a pumping station on the coast which will be equipped with electrically driven centrifugal pumps taking power from the main plant. These pumps will discharge into a reservoir with an elevation of about 120 feet and the water will return to the ocean through a second hydro-electric station.

The original installation at Cobscook will be ten 16,667 Kva units with an ultimate capacity of 22 units. The pumping station will have 180,000 h.p. capacity and a power generating capacity in the first installation of 44,800 kw.

The connecting dams required to complete the surrounding of Cobscook Bay will present some unusually difficult construction problems as the water depth reaches 125 feet.

PREFABRICATED HOUSES

The record of mechanical engineering achievement for 1935 would not be complete without some reference to the joint efforts of architect and engineer in the design and construction of factory-built and field-erected houses. The papers and discussion of this type of building at the Cincinnati meeting in June of the American Society of Mechanical Engineers indicated the general direction progress is taking. Plywood seems to be the most popular and most successful material for the construction of panels, but light steel and wood are still rivals for the framing on which the panels are assembled. The factory-assembled standard units for the plumbing, heating and lighting systems of the house have apparently proved their worth and economy, but foundation and erection costs still are beyond the control of the manufacturer and frequently too high. Local labor expenses must be reduced before the prefabricated system can bring to the public real low-cost housing. (See also "Housing Progress," pp. 553-556).

ELECTRICAL ENGINEERING

By Cornelius N. Weygandt

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INTRODUCTION

Electrical engineering finds its application in the power industry, the communications industry, the electrical manufacturing industry, and in the use of electrical devices by industry in general. This year has been a hectic one for the power industry because of the long debated and finally enacted Public Utility Act of 1935. The most discussed part of this act is the so-called "death-sentence" to public utility holding companies, paragraph 1, section 11B, which says in part:

> "As soon as is practicable after January 1, 1938, to require each holding company to limit its operations to a single integrated system, subject to exceptions."

Speaking of the whole act, George C. Mathews of the Securities and Exchange Commission said, in an address at Northwestern University, "In general, it gives the Securities and Exchange Commission power to regulate financial practices and corporate organization of public utility holding company systems."

The Public Utility Act was fought from beginning to end by the utility companies themselves. The following statement by Thomas N. McCarter, president of the Edison Electric Institute is typical of their attitude:

> " . . . . Recent Federal legislation has attacked the electric industry in three different ways, as follows:
>
> (1) The public utility act of 1935.
>
> (2) That portion of the National Recovery Act which purports to give the Government the right, by gift or loan, to aid municipalities in erecting power plants to compete with existing facilities.
>
> (3) The Tennessee Valley Authority legislation, which seeks to put the Government directly in the power business, involving the destruction of existing facilities.

This controversy was furthered by the report of the Power Commission on its national survey. The result of this survey of 215 systems placed the nation's dependable power supply at 27,300,000 kw. or 14 per cent less than the installed capacity. On this basis 2,000,000 kw. will have to be replaced on the resumption of normal business activity. To allow for expected growth of load another 2,000,000 kw. will be needed. This places the nation's generating capacity 4,000,000 kw. less than it should be, according to the commission's report. The report has been vigorously attacked by the utilities.

The volume of business of both the electrical manufacturers and the power companies has increased steadily throughout the year. Manufacturers have reported 16 to 27 per cent increase in sales billed for the first three quarters of 1935 as compared with 1934. The weekly consumption of electricity has increased steadily reaching a peak of 1,897,180,000 kw-hr for the week ended Nov. 2 which, according to the Edison Electric Institute, is the highest figure ever attained in any week. This steady rise has been pointed to as an index of national recovery. It is the result of an increase in industrial load added to a domestic load that has been built up by intensive selling campaigns carried on during the depression.

HYDRO-ELECTRIC PROJECTS

A study of water power available in the United States is a part of the work to be done by the National Resources Board. A preliminary report by the water planning committee of this board said in part, "The combining of power generating facilities where technically practicable with any type of dam (whether built for flood control, low power control, navigation or recreational purposes) may make economically feasible many a project which might otherwise not be so."

The committee estimated the total installed hydro-electric capacity of undeveloped sites at 55,000,000 kw., almost equal to the present developed capacity from all sources. Only locations promising profitable developments were considered, it added.

It is interesting to note that all the hydro-electric projects now in progress are either Government sponsored or at least Government aided. The Boulder Dam is completed and electrical equipment is being installed in the power houses. Four generating units of 65,000 kw. rated capacity, with a maximum capacity of 82,500 kw. and one of 40,000 kw., are now being erected. Ultimately there will be the equivalent of 16 such generators totaling 1,400,000 horsepower.

The Boulder Canyon project has been widely publicized as a monument to modern engineering achievement, and rightly so. Many new developments in all fields of engineering, but especially in the electrical, have been brought forth to meet the requirements of this undertaking. Other water-power developments now in progress are Norris, Wheeler and Wilson Dams of the Tennessee Valley Authority, the Fort Peck Dam on the Missouri River, and the Grand Coulee and Bonneville Dams on the Columbia River. Another project of great popular and scientific interest is the Passamaquoddy Bay tidal power development. Ten million dollars has been allotted to the War Department Corps of Engineers for the initial work. The complete plan calls for $50,000,000. The economic feasibility of this project has been challenged by many.

STEAM GENERATION OF ELECTRICITY

The trend in steam turbines for the generation of electricity continues in the way it has been going for the past few years toward higher pressures and temperatures. By the use of higher throttle temperatures made possible by developments in heat-resisting alloy steels, it is possible to install new high pressure equipment exhausting directly into existing low pressure turbines. By this means the trouble and expense of reheating the exhaust steam is avoided. An order has recently been placed for a 40,000 kw. 3,600 r.p.m. turbo-alternator to operate at 1,250 lbs. pressure and 925 deg. cent. This is the largest turbine that has been built to run at so fast a speed. One 110,000 kw. generator and one of 165,000 kw. were completed in 1935, both driven by high pressure high temperature turbines.

In spite of these large units Arthur L. Nelson says in an interview in the Electrical World: "I see a definite trend toward smaller plants for industrials. The trend is less marked with utilities, but should be given more thought in looking forward." He goes on to say that small industrial plants can compete with utilities for three reasons: first by the use of exhaust steam in processing; second, conversely by the use of waste heat in generation, and third because of more efficient smaller generating units developed by manufacturers.

TRANSMISSION

The ever present possibility of instability existing in the conventional synchronous transmission systems has caused engineers to cast about for new means of transporting electrical energy. One of the most interesting of these is a system of constant current d-c transmission. The power is generated as a-c and, after passing through a special network, the voltage is raised by conventional transformers. An electronic rectifier then converts it to d-c which is fed to the transmission line. At the receiving end of the transmission line an electronic inverter converts the d-c back to a-c which can be stepped down for use in the usual way. Much is claimed as to the reliability of the system, but as yet it is still in the experimental stage. Others have suggested the use of greatly reduced frequencies as a cure for some of the ills of transmission systems.

The transmission lines from Boulder Dam to Los Angeles embody many new and interesting features. The conductors are of specially designed self-supporting tubular construction, made up of 10 interlocking segments. The diameter is 1.4 inches. This large diameter was dictated by corona conditions existing at the extraordinary high voltage (287 kv) and the high altitude which the line reaches in some of the mountain passes. The segmented form was found to be very effective in damping out conductor vibration. As a further means of avoiding trouble from vibration a new design of suspension clamp was evolved, known as the free center type. This type of clamp distributes the bending stress due to vibration in such a way that no harm is done to the cable. In addition to the usual overhead ground wires, a buried counterpoise is used for much of the length of the line in order to reduce the severity of lightning surges. Lightning arresters of the non-linear resistance type larger than any ever built before are used at the ends and sectionalizing point.

In the field of lightning research in general much new experimental data was gathered both in the field and laboratory. Tower currents of as much as 100,000 per leg were measured by surge crest ammeters. Expulsion protective gaps have proved their worth in clearing power arcs following lightning flashover of insulator strings. Experimental proof has been found that lightning strokes are often multiple, that is, there is a leader stroke followed in rapid succession by a large number of other strokes. Laboratory experiments with high current surge generators have contributed to our knowledge of the causes of the destructive effects of lightning.

DISTRIBUTION

A new practice in the operation of distribution systems received much notice in the literature, that is, the immediate reclosure of circuit breakers after fault operation. If the fault is of momentary duration it is often possible to restore the service before synchronous machinery has fallen out of step or undervoltage devices have operated.

The use of feeder voltage regulators beyond the substation to improve voltage conditions at the end of long low capacity lines has met with great success.

The Russian government is carrying on extensive experiments in an effort to develop apparatus for use in a 400 kilovolt grid system to supply the whole of Russia. An experimental line nearly a mile in length has actually been constructed.

LOAD BUILDING

Trying to find and develop new markets for the sale of electric energy has been the object of much thought and effort this year. The "better light, better sight" campaign has been continued and has been a benefit to the country as a whole as well as to the sellers of appliances and power.

Activities have been shifted from the kitchen to the cellar, and this year we find the sale of laundry and water-heating equipment has been pushed extensively. Air-conditioning apparatus holds great possibilities as a future consumer of electrical energy. However, the air-conditioning load is not an ideal one from the power company standpoint because of large starting currents drawn by the compressor equipment. This is likely to cause flickering of the lights which is annoying not only to the user of the air-conditioning equipment but also to his neighbors. This problem can be handled by the power companies by installing larger capacity lines or by the manufacturers by reducing the starting currents taken by their apparatus.

One large manufacturing company offered a number of prizes to architects for designs for houses incorporating all the latest appliances, including electric heating and air-conditioning.

The prize winning houses are actually being built in different parts of the country in order that the public may see for itself the possibilities of some of these devices.

RURAL ELECTRIFICATION

Electrification of farming country has been looked upon in the past as likely to be unprofitable because of the large amount of money tied up in lines and other equipment per customer in sparsely settled districts. However, during the depression, when utilities were investigating all prospective loads, it was realized that if electric energy could be sold to the farmer cheaply enough for him to use it as power for pumping water and running farm machinery the viewpoint would be changed.

This was recognized by President Roosevelt when he created the Rural Electrification Administration and placed at its disposal $100,000,000 to be used in providing cheap electric power for the farmer. The REA will lend money to approved petitioners for the purpose of building or extending rural power lines. Loans at 3 per cent cover the full cost of projects and are to be liquidated in 20 years. Three groups have been among the petitioners, the farm cooperative associations, municipal power generating companies, and privately owned utilities. The Electric Home and Farm Authority, which is an extension of the old auxiliary unit of the TVA, has been organized to finance the sale of electric machinery and appliances. It will operate in conjunction with the REA.

ELECTRICAL MACHINERY

Generators.—Several of the large generators built in 1935 were equipped with double armature windings showing the continued popularity of this construction. Double windings reduce the size of circuit breakers necessary, eliminate certain bus reactors, and improve stability characteristics. The so-called telescopic-exciter arrangement in the two 56,000 kva units for the Norris Dam is an interesting new development. In effect, the pilot-exciter armature is nested inside the main exciter rotor, which reduces the headroom by three and a half feet. The Boulder Dam generators are notable chiefly for their tremendous size. They are rated at 82,500 kva maximum output and are driven by Francis type turbines capable of delivering 115,000 horsepower when the full head of 525 feet is available. They are arranged to be run at either 150 or 180 r p m for generation of 50- or 60-cycle current. At the higher speed the voltage will be 16,500 volts, illustrating the trend toward higher generated voltages. The total weight of the rotating parts is 900 tons, all carried on a single thrust bearing.

A large single phase 25-cycle vertical water wheel generator at the Safe Harbor Dam went into regular service early in the year. This is the first time such a machine has been attempted and its success will help solve the problem of single phase generation for railway service. Hydrogen cooling, a scheme that has long been used to reduce the windage losses in synchronous condensers, has found application in alternator and frequency convertor construction. A 40,000 kw. 3,600 r p m turbo-alternator will be hydrogen cooled as will a 22,222 kva 60- to 25-cycle frequency changer set.

Motors.—A-c single phase railway motors have been still further improved. The motors are now smaller for the same power, and some of the major commutation difficulties have been overcome. A large number of these motors have been furnished for the fifty-seven 4,620 h p locomotives for the Pennsylvania Railroad.

Circuit Breakers.—The 287 kv circuit breakers for the Boulder Dam transmission lines represent a most startling departure from conventional design. They are of the so-called impulse type which depend for their operation upon carefully controlled pressure conditions at the point of separation of the contacts. The pressures are generated by the combined action of a piston and the action of the arc on the oil surrounding the contacts. Only 50 gallons of oil per phase participate in the actual interrupting action. The circuit breakers are very different in appearance from the usual tank type oil circuit breakers. They are built mostly of porcelain insulating material which supports or protects the working parts. The contacts are held in the closed position by a magnetic latch actuated by a permanent magnet. This scheme makes extremely quick tripping action possible but is independent of any source of control power. These breakers are guaranteed to clear the circuit within .05 seconds from the start of the tripping impulse.

Transformers.—Transformer designers, who have been working for years to improve transformer efficiency by another tenth of one percent or so above 98 per cent, are stopping to wonder if they have not reached the economic limit, if not the physical one. Much constructive work is being done in the coordination of transformer insulation to reduce lightning damage. Some distribution transformers are being furnished with built-in lightning arresters. A new eight-sided transformer tank has been found to have many advantages over the usual oval tanks. The tank is easier to make, stronger structurally, and occupies less space.

ELECTRIC FURNACES

Again this year much space in the literature is devoted to the various kinds of electric furnaces. In this country resistance, arc, and induction furnaces are all finding increased use, especially in the production and heat-treating of alloy steels. One interesting application of the induction furnace is for baking enamels on steel objects such as automobile wheels. In Germany experiments with induction furnaces for melting metals in a vacuum are producing interesting results. In France furnaces of the interior radiator type are being built in capacities up to two tons. In these furnaces the charge is heated by radiation from an incandescent graphite electrode.

ELECTRIC TRANSPORTATION

The following editorial comment in the *Railway Electrical Engineer* summarizes the railroad electrification situation in this country: "General interest in railroad electrification has lagged in recent years. Its adoption requires major capital expenditures and these are scarcely to be considered by managements who are beset with the need for keeping their properties solvent in the face of increasing competition. Competition with electrification arises not only in the forms of highway, airway and waterway carriers but also on the railroad itself. Diesel-powered trains and locomotives and greatly improved steam locomotives offer, at relatively small cost, means for improving services, reducing schedules and attracting traffic to the rails."

The inauguration of electric service on the Pennsylvania Railroad between Washington and Philadelphia on Feb. 10, 1935 marked the completion of the only major steam road electrification in the United States. This is a 25-cycle single phase a-c system with 12,000 volts on the trolley wire like the rest of Pennsylvania Railroad electrification. Single phase generating equipment has been installed at Safe Harbor Dam on the Susquehanna River and in Washington to take care of this service. The locomotives are semi-streamlined, the largest of their kind ever built.

Several more types of light high-speed diesel-electric locomotives have been built, some for individual use, and some as part of articulated trains. One heavy diesel-electric locomotive rated at 3,600 horse power and weighing 240 tons was built for the Santa Fe.

If interest in electricity as motive power is lagging, electric auxiliary equipment for making rail travel safer and more comfortable is being developed faster than ever. Air-conditioning and better illumination is requiring larger capacity generators on coaches. Some railroads are finding it economical to change from the old 32-and 64-volt systems to 110-volt systems for car lighting and auxiliaries.

In England railway electrification has not reached the stalemate that it seems to have reached here. Four large railway companies have recently announced a five-year electrification program. A total of nearly 300 miles of right-of-way will be electrified at a cost of approximately 30,000,000 pounds.

METERS AND INSTRUMENTS

The increasing use of rapidly rising impulse voltages in the testing of high-voltage apparatus has created the need of a new means of measuring these voltages. Doubt has been cast on the accuracy of sphere gap spark-over distance as a measure of the peak value of a rapidly rising voltage unless the rate of rise is specified and allowed for. Experiments have been conducted with a sparkless sphere gap in which voltage is measured in terms of the force exerted by one of the spheres on the other.

A new electrothermic instrument for measuring watts, amperes, or volt-amperes, has been developed. The actuating mechanism is a completely filled system consisting of a liquid reservoir and a Bourdon tube. This instrument has a uniform scale over its entire range, and because of the ease with which its time period can be adjusted, it is well adapted to use as a demand meter.

Several improvements in watt-hour meters for metering domestic electric service made their appearance. Detachable meters that may be changed as readily as light bulbs are becoming more popular.

A bridge for making precise measurements of the power-factor of samples of insulating oils has been developed. Power factors as low as five parts in 10,000,000 have been accurately measured.

An interesting new instrument for measuring resistances over 1,000 megohms uses an electron tube.

A small accurate illuminometer scarcely larger than a watch is available. It uses a photronic cell and reads the intensity of illumination directly in foot-candles. Another instrument which will be very useful in the illumination field is a visibility meter. This device is held before the eyes much like a pair of eye glasses. Dials are turned until an object is barely discernible. The reading of the dials is a measure of the visibility of the object. The dials also have a scale giving the recommended illumination in foot-candles.

CONTROL

Electronic Control Devices.—The most notable advance in the application of electrical control in general during 1935 is the wide spread acceptance of various kinds of electronic tubes in the power field. These tubes have been used for years in radio and telephony, and for the last several years a few courageous engineers have been pointing out many applications for them in power work. During the last year power men have at last accepted electron tubes not only for low current control work but for heavy duties as well. One of the most useful of these electron tubes is the grid-controlled mercury vapor tube known as a grid glow or thyratron. A 250-horsepower variable speed motor driven through thyratron tubes has been tried out as the motive power for a large forced draft fan with great success. An account has just been published of an excitation system for a 15,000 kva synchronous condenser made up entirely of thyratron tubes. Photo-electric tubes and photronic cells, which have been well known for some time, are becoming cheaper and new applications are being found for them. Several types of electronic voltage and current regulators have been developed.

Carrier current telephony for communication over power lines has been familiar for some years. Now carrier current is also being used for relaying and control purposes. Carrier frequencies will be imposed on the Boulder Dam transmission lines for four purposes; relaying (that is automatic operation for removing sections of the line in the event of a short-circuit), supervisory control of switching stations, ordinary telephone communication, and telephone communication to patrolmen's cars in the vicinity of the line. This last use is extremely interesting, as it will enable the substation attendants immediately to inform the men patrolling the line of any troubles that develop. Another use of thyratron tubes is in seam-welding devices. It is a welder of this sort that has made possible the new metal radio tubes of which we hear so much. It is literally true that tubes are used to make tubes.

Relays.—To keep pace with the faster operation of oil circuit-breakers faster relays are being built. Relays are available that will operate in less than one-half cycle of 60-cycle alternating current. A synchronizing relay has been developed that is compensated so that its operation is not affected by fluctuations in magnitude of the voltages being synchronized. This device uses electronic tubes.

RADIO AND TELEVISION

Since there is a separate section in THE AMERICAN YEAR BOOK devoted to Radio (see pp. 515-520) the discussion of these subjects here will be brief. In broadcast receiving sets this year interest seems to center about the design of more flexible and elaborate tuning systems. The most widely publicized development has been the introduction of metal radio tubes. Research in radio communication has been carried on most actively in the following fields: electro-magnetic wave propagation, ultra-short wave investigation, television, the properties of antennas, and investigations of high fidelity transmission and reproduction of sound.

TELEPHONY

Half Century of Growth.—The year 1935 marked the 50th anniversary of the American Telephone and Telegraph Company. The growth of the telephone business since 1885, when the invention was scarcely 10 years old, seems little short of miraculous. The latest census shows that there are over 32,500,000 telephones in the world. Of these over 51 per cent are in the United States, 35 per cent in Europe and 3½ per cent in Canada.

Radio Telephone Links.—The short wave radio telephone link across Cape Cod Bay from Green Harbor to Provincetown has operated very successfully. Calls are routed from Boston to Green Harbor and transmitted from there to Provincetown exactly as if the radio link were a wire circuit. Customers using this service need not worry about their conversation being overheard, because the speech is garbled so that if it were picked up by anyone it would be entirely unintelligible. At the receiver it is "ungarbled" again. The transmitter and receiver are entirely automatic and operate without attention. Short wave radio-telephone ship-to-shore service is commercially available in the Puget Sound District and also in the Cape Cod neighborhood. It played an important part in the rescue of the disabled trawler *Plymouth* 200 miles east of Boston Light.

After a hurricane had almost completely destroyed some thirty-six miles of pole lines which form a part of the Miami-Havana telephone circuit, radio again proved its worth as a link in commercial telephone service. Two 5-watt transmitters and suitable receivers were set up to bridge the gap left by the storm. The radio apparatus proved fully equal to the unusual task imposed upon it, and normal service was given over the improvised system for some time.

Coaxial Cable.—The development of the coaxial cable (THE AMERICAN YEAR BOOK, 1934, p. 680), has been carried still further in 1935. This cable is simply a hollow conducting shell through the center of which runs another conductor. Over a cable so constructed a large number of different conversations can be transmitted at the same time, each on its own carrier frequency, just as a number of different broadcast programs can be on the air at the same time. At the receiving end suitable tuning equipment must be provided to separate one conversation from another.

The A. T. and T. is planning the installation of a coaxial cable between New York and Philadelphia. The cable is to be about seven-eighths of an inch in diameter and will contain two coaxial conductors as well as some conventional circuits. It is hoped that the installation of this cable will be complete by the first part of 1936. Because of losses in the cable it will be necessary to install repeaters about every 10 miles. For this purpose a new repeater has been designed which can be enclosed in a sealed box on a telephone pole. These repeaters will operate without attention for long periods of time. They are designed to cover a frequency band of 1,000,000 cycles. The New York-Philadelphia cable is expected to handle 200 conversations simultaneously. In Germany a coaxial cable about 8 miles long has been installed for the transmission of television programs, another interesting use for this equipment.

The Compandor.—An extremely interesting development which saw its first commercial use early in 1935 is the so-called ''compandor.'' This is an answer to the problem of the wide variation in the intensity of the received signal which has always been a source of trouble in telephone circuits of all sorts. There is a certain minimum intensity of sound below which the signal, be it spoken word or anything else, cannot be heard above the extraneous noises in the circuit. This is called the noise level. There is also a maximum intensity which any kind of telephone equipment can transmit. Obviously, since the speech varies widely in intensity, amplifiers must be adjusted so that the maximum intensity is below the limit of the equipment. When this is so the low intensity sounds may be below the noise level. The compandor avoids this difficulty by amplifying all sounds at the sending end only enough to keep them all below the maximum safe intensity of the line and the soft sounds are amplified more than loud ones so that they are above the noise level. This is called ''compressing'' the intensity. At the receiving end the intensity is ''expanded'' so that loud and soft sounds regain their normal relationship. This system has been in service some time on the New York-London radio-telephone circuit with most encouraging results.

ILLUMINATION

Sodium vapor lamps have become more popular especially for highway lighting. The non-glaring quality of the light together with the high efficiency of the lamps, as much as 55 lumens per watt, makes them especially well adapted to this service.

In the yellow sodium light red warning signs painted with ordinary paint appear black. This difficulty has been overcome by the use of rhodamine paint which fluoresces with a red color in sodium light.

High intensity mercury arc lights are finding a wide application in factories where high definition of objects is desired. In Europe they are also being used for street-lighting purposes.

In order to have sufficient illumination in school rooms at all times with the minimum consumption of power, a photoelectric control has been worked out which is finding a wider and wider application. Experiments have shown that in one instance, at least, students in a well lighted room showed 28 per cent greater gain in achievement in the course of a year than students in a poorly lighted room.

Interesting experiments have been carried on by the Boyce Thomson Institute with windowless greenhouses which are both heated and lighted by electric lamps. A closer control of temperature is possible, and in some localities the cost may be lower than heating with coal and lighting with sunlight.

In Europe an airways beacon has been developed which tells the pilot how many degrees off his course he is by the number and sequence of flashes he sees.

One interesting innovation in 1935 was the illumination of the baseball park in Cincinnati for night games. The first major league night games were surprisingly popular with the spectators.

The use of lighting effects as one of the major architectural media, especially in theaters and restaurants, is becoming more apparent.

It is interesting that electrical engineers, who have long been advocating better lighted rooms, have found that they can use some of their own advice. With this in mind the switchboards in the control rooms of some of the newer generating plants are being painted in light colors instead of the traditional black. This results in better lighting and more cheerful working conditions, not to mention improved appearance.

MISCELLANEOUS

Electricity in Medicine.—The treatment of certain diseases by ''artificial fever,'' or raising the body temperature by the use of very high frequency alternating currents, has been used successfully for some time. A new apparatus called the ''inducto-therm'' has been developed which produces the currents in the body by induction instead of by direct conduction as in the older apparatus. A heavily insulated conductor resembling an ordinary garden hose in appearance is wrapped about the member to be treated. This is really the primary of a transformer of which the body forms the secondary. This apparatus has been especially successful in the treatment of bursitis. Accurate measurements of the impedance of tissues of different parts of the body to the passage of electric currents have been made. It is believed that a comparison of such measurements of healthy and diseased tissue may lead to new and accurate methods of diagnosis which will be of great use.

Electric Boilers.—Boilers for generation of steam from electricity in which the water itself forms the heating element have been devised. The water is gently sprayed against three high-voltage electrodes in such a way that the temperature of the jets is raised by the passage of current through them. These boilers are said to be more efficient and cheaper than the older type with immersed heating elements.

Protective Signaling.—The introduction of photoelectric cells and other devices makes burglar and fire alarm systems almost human in their action. One device will detect the presence of any large metal object such as a gun. It has been installed in the doorway of a penitentiary and effectively ''frisks'' all visitors who might be carrying weapons to their friends on the inside. It consists of a finely balanced electronic system which is thrown off balance by the metal object and operates a warning signal.

AUTOMOTIVE ENGINEERING

By Austin M. Wolf

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STYLE AND SAFETY

The new models of passenger cars are characterized by superior styling and by the incorporation of many features which increase safety of operation on the road. Particularly outstanding are the combination of body and frame in the one unit and the reintroduction of the front drive car in which 55% of the weight is carried by the front wheels.

ENGINES

There is a considerable trend toward ''square'' engines in which the stroke exceeds the bore only slightly. With increased power output and also the reduction in car weight in many instances, the rear axle has a faster ratio. Both these influences cut down the piston speed which in turn reduces the inertia forces and decreases oil consumption.

One of the new eight cylinder engines derives one horse power from each 2.31 cu. in. displacement and weighs 4.53 lbs. per horse power. Compression ratios have increased in many instances, the highest ratio for a cast iron head being 6.7-1 while 7.45-1 is used with an aluminum head. A new twelve-cylinder engine has the two-cylinder banks and the crankcase cast in block. With a 2¾″ bore and 3¾″ stroke, it develops 110 horsepower at 3,900 R.P.M.

VALVES AND PISTONS

Two makers with overhead valve engines provide a temperature control for the valve gear by interchanging the heat of the cooling system with that of the lubricating oil. In starting up cold, the heat of the cooling system in one case is imparted to the lubricating oil by passing a water tube through the valve rocker shaft. Some of the oil passes down the push rods and warms them, thereby cutting down the time interval ordinarily required for thermal equalization of the various parts. Another manufacturer passes the oil supply tube through the water jacket on its way to the rocker shaft. In this way the noise of the valve gear when starting is quickly eliminated. There is increasing use of the automatic hydraulic tappet adjustor.

Aluminum pistons are now used throughout except in the case of three cars, two which retain cast iron and one using a high copper-steel alloy. The aluminum pistons are mostly of the silicon alloy type and are ground to an oval shape so that when operating they assume a cylindrical form. They are also given an anodic treatment for hardness.

The connecting rods in two engines are split at an angle to permit the removal of the piston and rod from the top of the engine. In one case the caps are located by integral tongues fitting into grooves in the rod.

COOLING

There is an increased use in full length water jackets as well as a water distribution tube to direct the cooling water directly to the exhaust valve seats. The water pump packing nut is being replaced by automatic seals which require no adjusting. Synthetic rubber is being used in many instances. One manufacturer employs a graphite- impregnated cork ring with a stainless steel washer on each side of it under spring pressure. Another type of seal consists of a spring loaded carbon disc, the sealing side being lapped convexly on a very large radius and bearing against a mating surface of the pump body. Fan and pump shafts are utilizing sealed ball bearings which require no lubrication throughout the life of the car.

The die cast radiator grille is used to a large extent, forming in most cases a rounded "V" front with a curved top and bottom as viewed from the side. These castings are of a zinc case alloy and weigh in some cases as much as 40 lbs. They are a most creditable indication of advancement in the die-casting art.

FUEL SYSTEM

Considerable trouble has been experienced by evaporation of the fuel in the carburetor, especially after a hard run followed by idling of the engine. The accumulation of vapor prevents the normal functioning of the carburetor, and the engine invariably stalls. To obviate this, one manufacturer provides a vent in the top of the float chamber which is lifted when the throttle is closed. Gasoline tanks have been increased in capacity and, in one instance, the filler is led to the tank through a separate housing, preventing fumes from entering the trunk or seeping into the body. The filler on one make is completely concealed by a small hinged door provided with a lock and which forms a part of the rear body panel surface. Fuel pumps are more completely shielded from exhaust heat by the use of deflectors which insure circulation of relatively cool air around them. A carburetor float chamber is similarly protected.

The automatic choke is used to a greater extent. The chief improvement has been the provision of an adjustment for different grades of gasoline. One make of carburetor operates the choke control thermostat in drawing outside air by carburetor vacuum into a small chamber built into the exhaust manifold. After it is heated it is delivered through a metal tube to the thermostat chamber and then goes into the carburetor airstream.

CLUTCH AND TRANSMISSION

Soft pedal pressure and more effective cushioning are incorporated in the new clutches. Increased cushioning is obtained in some instances by the use of clock steel cushion springs in which a number of individual segments are used which collectively make an annular ring. Each segment has a wavy surface with one crest higher than the other so that the friction lining will be gradually brought into full engagement. There is an increase in the use of the semi-centrifugal clutch.

All transmissions now have a helical sliding gear for first and reverse speeds. In a new design of front drive car the transmission is located forward of the differential unit. The clutch shaft extends forward above the differential and drives a countershaft below. A spiral bevel pinion at the back end of the countershaft drives the differential ring gear in the customary manner. There is no direct drive. There are four forward speeds, the fastest ratio corresponding to the conventional overdrive. The overdrive unit has also increased in popularity and retains its position at the back end of the transmission.

REAR AXLE AND BRAKES

The semi-floating rear axle is now used almost universally, and in many cases a sealed ball bearing is used at the end of the axle shaft thereby eliminating the need of lubrication during the life of the vehicle. A new differential assembly consists of a tubular case in which the gears are assembled from one side and retained by a threaded locking ring. The bearing mounting is also unusual in that the inner roller bearing race is stationary and the outer one rotates with the case. In changing over to a full floating axle, one light truck manufacturer is using a new type of self-aligning roller bearing in the wheel hubs. The bearing surface of the rollers is ground radially and the races are ground to a slightly larger radius which permits greater contact area as the load increases and elastic deformation occurs.

The hydraulic brake is used on almost all cars with wheel cylinders slightly larger at the front wheels than at the rear in order to obtain a greater braking effort at the front. On some makes the brake cylinder pistons are made of duralumin instead of aluminum, and bronze is used for the master cylinder piston instead of aluminum to guard against corrosion. The ability to hold a car on a grade and permit the operator to take his foot off the brake pedal has been worked out by one manufacturer in which a check valve is placed in the fluid line just ahead of the master cylinder. The pressure is retained as long as the clutch is held out by means of a mechanical interconnection with the clutch pedal. This mechanism permits the operator to remove his foot from the brake and use it on the accelerator as the clutch is let in.

One manufacturer using hydraulic brakes provides a mechanical interconnection with the hand brake cables that run to the rear wheels which is brought into action should the brake pedal exceed ¾ of its normal travel. There is a general use of the hand brake lever under the instrument board at the left side.

FRONT AXLE, WHEELS AND TIRES

One maker provides radius rods that extend forward to the front axle and attached to them by a vertical pin at each side just outside of the spring seat portion of the axle bed. The rear end is supported below the frame in a rubber bushing. Since the braking reaction is taken care of by the radius rods, the front springs are made considerably softer as their sole function is that of supporting the load. The spring seats swivel on the axle bed. The wire wheel is no longer used having been entirely supplanted by the pressed steel type. Rims are almost entirely of the 16″ size and with a dropped center. There is only one model using a 15″ rim which is an innovation. A new tube has been developed consisting of one tube within the other, the inner one having a few small openings in it. In this way pressure is equalized throughout both volumes and should a puncture occur in the outer tube, the air within the inner one will prevent a sudden dropping of the wheel and enable the driver to retain full control until the car is brought to a stop.

SUSPENSION

Softer springs are general, and the use of the side-sway eliminator at the front end of the vehicle has increased. On some models the eliminator is used at both the front and rear ends. It is usually mounted in frame-supported bearings but a number of models have the ends of the eliminator secured to the shock absorber arms thereby eliminating frame brackets. A new form of individual front suspension consists of a box section pressed steel arm which is pivoted at its forward end and supports the wheel unit in a steering yoke mounting at its rear. A transverse leaf spring is connected at each end to the suspension arm on that side by means of a tension rod. Rubber mountings give a universal action to each end of the rod so that there is no cramping with the rise and fall of the wheel.

FRAME

Frames have been increased considerably in rigidity by the use of deeper frame rails and particularly more rugged X-member constructions. One maker designs his frame so that it will be sufficiently rigid to take care of open bodies. The latter, naturally, do not have the reinforcing effect of a closed body. The frame rail in one car consists of an inverted U section with outturned flanges at the bottom and to which a flat closure plate is welded every 1⅜″. The new front drive car that has been introduced has an independent frame portion for the power plant which is later attached to the body frame on which the entire body structure is built and welded together as an integral unit. The channels of each frame portion overlap. Welding is used to a considerably greater extent this year.

CONTROL

To reduce steering wheel vibration and wheel whip one manufacturer mounts the steering column independently in the body cowl, and the steering gear is bolted to the chassis frame. A short propellor shaft with two metallic universal joints connect the two members. In place of a horn button, one car is provided with a large diameter ring which is actuated by the thumb. Steering gear ratios have been reduced in a number of instances to lessen manual effort.

EQUIPMENT

A considerable number of cars have the headlights mounted on the radiator shell. A new mazda lamp has been introduced, having two horizontal coiled "bar" filaments located side by side but with the passing filament slightly above the depressed beam filament. The lower right hand filament, as viewed from the driver's seat, provides a driving beam of symmetrical pattern. The upper left hand passing filament provides an asymmetrical beam, being shifted down and to the right about 3°. An opaque coating on the end of the bulb masks the direct rays which do not strike the reflector but ordinarily are the cause of scattered light that results in difficulty in a haze or fog. One car is provided with retractable headlights that swing flush with the front portion of the fender when not in use. A crank handle at each side of the instrument board raises or lowers the lights by means of a flexible shaft and worm gear. A number of cars have the license bracket at the center of the luggage compartment where is it out of the airstream and with the conventional tail lights on each side.

Instrument panels provide a more compact grouping, and color is used to a greater extent. Edge lighting of the instruments is a new development giving a soft light but with the figures and graduations clearly visible. The rough cut edge of the glass was found to provide a better surface to produce uniform light than a polished or ground edge. A pilot light to indicate the use of the upper headlight beam is more universally used. Several cars have a pilot to indicate each beam position.

SHEET METAL

Front fenders in general extend down to the bumper level. The creased fender is very popular as also a housing on the fender apron for the horn. The top of the hood in numerous cars extends forward to the radiator grille, giving an appearance of length and smoothness that is not obtained where the radiator shell is continued over the top portion. Most louvre designs consist of horizontal lines which in a few cases are interrupted by cup-shaped ventilating ports. One new hood design with a blunt V-front extends down to six lower chromium-tipped louvres that run completely around the sides and front, giving the effect of a Venetian blind. The lower edge of the hood top is flared outwardly to form a seventh louvre. The radiator core is entirely within the hood.

BODY

The new bodies are wider and have increased leg and head room and considerably larger luggage compartments. The convertible body is reappearing in greater volume. The all-steel roof has many more adherents. One maker fabricates a large single stamping that includes the cowl top, windshield section and the roof back to and including the rear window.

The unit body and frame construction is designed along the lines of an airplane fuselage. In one instance welded chrome-molybdenum tubing is used while the second example provides a channel section corresponding to the ordinary frame rail but with outriggers, the floor and side members all welded to it. The side members form a truss construction and all panels are electrically welded and are used as load-carrying members.

A new ventilating system consists of a cloth screen placed over an opening in the body floor above the rear axle. Air is drawn out of the body at the windows by car movement, and outside air enters through the cloth member which is similar to the material used in a vacuum cleaner bag, thus screening all the entering air.

One line of bodies is secured directly to the chassis frame at the top and sides, the frame following the contour of the body. Rubberized fabric pads insulate the body from the frame. Many of the cars which hinged the front door on the centerpost have changed the hinges to the forward side of the door which is a safer provision should the door accidentally open when the vehicle is in motion. The bucket type front seat on coupes is being replaced by a full width seat cushion and with either the right section hinged so as to fold forward or with both sections so hinged. One manufacturer provides, in addition to the customary fore and aft seat adjustment, a crank at each end, permitting the raising or lowering of either end of the seat.

With the advancement of the Automobile Show date from January to November, the car manufacturers have made remarkable progress in the ten months' period available in which to design and produce their new models.

NAVAL ARCHITECTURE AND MARINE ENGINEERING

By H. H. Brown

Editor, *Marine Engineering and Shipping Review*

GENERAL TRENDS

As the profession of naval architecture and marine engineering is dependent upon the requirements of the shipping industry for its activities, the nature of the work undertaken in this branch of engineering depends upon the types of vessels that circumstances will permit or require the shipowners to build at any time. The circumstances that influence shipping, however, are so varied in this country that the building of ships seldom follows the natural law of supply and demand. Instead, the development of both shipping and shipbuilding, and hence the work of the naval architects, depends largely upon the whims and caprices of the Federal Administration in power at any particular time.

The present Administration has strongly backed the building up of the Navy to Treaty strength and is carrying out the greatest program of peacetime naval construction in the history of the nation. No less than 86 naval vessels of 283,851 displacement tons are now under construction, and to bring the Navy up to Treaty strength there remain to be built in the future 36 destroyers and 18 submarines of about 77,400 tons. In another year seven of the 15 existing battleships will become over-age and can be replaced. In addition, Congress will be asked to authorize the construction of a considerable number of auxiliary vessels, including cargo ships, tankers, and refrigerator vessels, for the Navy and transports for the War Department. The vessels now under construction include three aircraft carriers, three heavy cruisers, nine light cruisers, 16 submarines, 13 destroyer leaders, 40 destroyers and two gunboats. The work is distributed among eight private shipyards and eight government navy yards.

Commercial shipping and merchant shipbuilding, however, have been kept in a state of chaos throughout the present Administration, first, by threats of drastic changes in the method of subsidizing shipping and, second, by failure to establish a government shipping policy or to enact legislation extending financial aid to shipping. As a result, plans for developing the merchant marine have been shelved for three years and during this time only a few merchant vessels, except small miscellaneous craft and barges, have been built.

SHIPBUILDING

Shipyard Output.—The output of American shipyards has diminished steadily for the last five years. In 1935 only 368 merchant vessels of 113,313 gross tons and six 1,500-ton naval destroyers were completed. It is the smallest tonnage produced by the industry since 1908. Under the spur of December orders, however, American shipyards ended the year with an increase of vessel tonnage under construction of more than 64 per cent over 1934. The work now in hand totals 459,671 tons, which exceeds that under construction in any year since 1923 except in 1930 when the shipbuilding program following the passage of the Jones-White bill was at its peak.

New Orders and Bids.—The outstanding developments in merchant shipbuilding occurred during the last three weeks of the year when the United States Lines ordered a 23,000-ton transatlantic liner, the Socony-Vacuum Oil Company two 15,000-ton tankers, the Pan American Petroleum Corporation two 15,000-ton and two 12,000-ton tankers, and New York City three 251-foot ferryboats. Since then the Gulf Refining Company has ordered two 11,000-ton tankers, the McWilliams Dredging Company one 165-foot hydraulic dredge, the Bay State Fishing Company three 142-foot Diesel trawlers, and the Norfolk County Ferries one 175-foot Diesel ferryboat. Bids have been received for the construction of a 151-foot Diesel-electric ferryboat for the Navy Department, one or two 508-foot transatlantic liners for the American South African Line, a 272-foot suction dredge for the United States Engineer Corps, and two 210-foot oil barges for the Texas Company.

Gain in Merchant Percentage.—In contrast with the situation a year ago when only 18 per cent of the work in hand was merchant work and 82 per cent was naval work, merchant shipbuilding now comprises 38 per cent of the tonnage under construction as against 62 per cent of naval work.

Construction Classifications.—Forty-six shipyards completed vessels in 1935 and 35 yards now have vessels under construction. Of the merchant vessels built in 1935, 18.4 per cent were steamships, 5.3 per cent motorships and 76.3 per cent barges or non-propelled craft. Of the merchant vessels now under construction, 74.5 per cent are steamships, 1.7 per cent motorships and 23.8 per cent barges or non-propelled craft. The only sea-going merchant vessels delivered during 1935 were two 15,000-ton tankers built by the New York Shipbuilding Corporation for the Socony-Vacuum Oil Company. Until the December orders were received the principal merchant vessels under construction consisted of two 12,000-ton tankers for the Standard Oil Company of New Jersey at the Federal yard, two 11,000-ton tankers for the Gulf Refining Company at the Sun yard, and one ferryboat each for the Pennsylvania Railroad and the Erie Railroad at the Sun yard.

SHIPPING

Improved Outlook.—In spite of the depression, and consequent low rates, American shipping has maintained its position in the transportation of the World's commerce. While this position is not what it should be, it has at least been maintained in the face of discouraging apathy on the part of the Government. In recent months the volume of business has shown consistent gains not only in the movement of freight but also in the carriage of passengers and mail. The outlook is better than it has been for four years, and but for the uncertainty which for three years has hung over the existing mail contracts and the continuity of the existing government shipping policy much more would be accomplished.

Need of Fleet Modernization.—The crying need of American shipping is a progressive construction program to replace old and obsolete tonnage. Outside of 44 new ships built with government loans under the Jones-White bill, practically all seagoing American vessels date back to the World War period or earlier. The ocean-going merchant fleet now consists of 651 cargo ships, 327 tankers and 172 combination freight and passenger vessels. All but seven of the cargo ships are 10 years old or more; most of them are inefficient for competition with modern tonnage built abroad. Of the total of 1,155 vessels, each of 2,000 gross tons or more, only about 7 per cent can be considered as modern. Obviously, the most pressing need of American shipping is the modernization of its fleets.

Foreign Commerce.—Foreign commerce of the last fiscal year, of which American ships carried about one-third, was the best since 1931. Both exports and imports gained substantially. Coastal and intercoastal business has picked up, and shipping on the Great Lakes has shown a marked improvement over last year.

Passenger Traffic.—The volume of passenger traffic steadily increased during 1935. American ships carry about a third of all passengers entering or leaving our ports. Member lines of the Transatlantic Passenger Conference carried a total of 594,698 east- and west-bound passengers during 1935, as compared with 571,044 in 1934, or a gain of 23,654. Of this number American-flag vessels carried more passengers in proportion to their accommodations than the ships of any other nation. Winter bookings indicate heavier traffic than in any recent year, with intercoastal traffic assuming the proportions of a boom. If the present improvement in shipping continues, as there is every indication that it will, the result will be an increasing demand for new ships of all types.

TANKERS

Types Under Construction.—In view of the fact that over 88 per cent of our entire tanker fleet of 2,385,000 gross tons consists of vessels 13 years old or more, it is not surprising that tankers should lead the way as shipbuilding began to pick up at the end of 1935. The life of a tanker is only about 15 years as compared with the normal life of 20 to 25 years for vessels in other trades. Of the 12 tankers aggregating 152,000 tons deadweight now under construction, there are three general types, all steam driven vessels—a 15,000-ton 500-footer of 4,000 horsepower and 13¼ knots speed, a 12,000-ton 445-footer of 3,000 horsepower and 11¾ knots speed, and an 11,000-ton 425-footer of 11 knots speed. The two latter types are being built to the Isherwood arcform design of hull with the Isherwood bracketless system of framing.

Capacity.—The larger vessels have a cargo capacity of 5,330,000 gallons, carried in 20 main cargo oil tanks and 12 summer tanks fitted between the upper and second decks on each side and separated by a continuous expansion trunk.

Hull Features.—The hull is of steel with two continuous steel decks from stem to stern and full scantling poop, bridge and forecastle decks of steel. The vessel has a straight stem and cruiser stern, with the hull built on the Isherwood longitudinal bracketless system of framing. The hull is riveted, and from the six-foot waterline to the keel iron rivets are used in all cargo and fuel compartments to resist corrosion; elsewhere the rivets are of steel.

Machinery.—The machinery is located aft, a double bottom extending under the machinery space only. Propulsion is by a single four-bladed propeller driven by a double-reduction geared-turbine of 4,000 shaft horsepower taking steam at 375 pounds per square inch pressure and 700 degrees F., temperature from three oil-fired watertube boilers located aft of and above the main engines.

Power and Speed.—The 12,000-ton tankers have several novel features. The arcform design of the hull, which is a relatively new development by Sir Joseph Isherwood, noted British naval architect, not only reduces the power for a given speed from 13 to 15 per cent over normal tanker forms but also increases the capacity so that the vessel will carry considerably more cargo than the usual tankers of the same overall dimensions.

Another feature is the fact that the longitudinal and transverse bulkheads are welded while the shell plating is riveted. Welding is also extended to the superstructure, hull appendages and all piping over 1½ inches in diameter, all of which reduces weight. All bottom plating is lapped with the outside butt facing forward instead of aft, a feature which reduces resistance and the horsepower required for propulsion.

The vessel is fitted with a contra-propeller stern post and a contra-guide rudder. Both are curved to port above the propeller shaft and to starboard below, not only reducing the power to drive the vessel but also reducing the torque of the rudder, and hence the size of the steering engine, as compared with the usual form of plate rudder.

Boilers.—In the propelling machinery a number of new features are found. Steam is supplied by two oil-fired watertube boilers at 430 pounds per square inch pressure and 750 degrees F. temperature located aft and above the main engines. The boilers have two drums connected by vertical tubes, with a D-shaped furnace at the side with water walls in the floor, front wall and roof. The two boilers are placed abreast with economizers and air preheaters between and superheaters on the furnace side. This arrangement gives maximum compactness without sacrificing accessibility and eliminates uptakes to the stack. The boilers have the unusually high efficiency of 87 per cent. Propulsion is by cross-compound turbines of 3,000 horsepower driving the single propeller shaft through double-reduction gears. Attached to the main propulsion unit is a 125-kilowatt electric generator. The main condenser is installed directly under the low-pressure turbine.

Fireproof Joiner Work.—In the officers' and crew's quarters on the vessel the joiner work is of a new type of fireproof construction consisting of panels composed of a vitrified and waterproofed asbestos core between galvanized steel sheets. The furniture and doors are of metal. By utilizing the above features the designers have developed a highly efficient and economical tanker which sets a new standard of safety in tanker construction.

New Tanker Design.—Another novel tanker design has been developed this year in which the total steel weight of the ship is reduced about 28 per cent by the use of complete welded construction, the adoption of a new arrangement of bulkheads constructed of buckle plates, and the use of high strength steel for the strength members. Further economies are gained by the use of geared-Diesel drive, which permits the use of small high-speed engines of stock designs. By the adoption of these innovations an increase of from 15 to 20 per cent in carrying capacity per ton of ship is possible over the typical riveted tanker.

OCEAN LINERS

Contract for New United States Line.—The placing of a contract for a 23,000-ton transatlantic liner by the United States Lines brings the problem of the design of ocean liners before naval architects again after a lapse of four years since the last order for a seagoing passenger vessel was placed in this country. The new United States liner will be a cabin ship slightly larger and faster than the *Manhattan* and *Washington* which have been operated by this Line with marked success for several years.

Design.—The design of the new vessel is somewhat complicated, however, by new government safety requirements and by the demand of the

Navy Department for a three-compartment ship in damaged condition. As the vessel is a potential naval auxiliary, the Navy Department is interested in having the vessel capable of surviving damaged conditions that do not have to be considered in the commercial life of the vessel. To meet these unusual requirements for stability in damaged condition involves a greater beam and more extensive bulkheading of the ship, all of which affects directly the weight of the hull and consequently the horsepower required to attain the designed speed. While a ship so designed as to remain afloat with three or four adjacent compartments flooded may be quite in order from a naval point of view, the imposition of such a condition is nothing less than a hardship for the merchant shipowner who has to compete with foreign vessels that do not have to meet such drastic requirements. Furthermore, the greater metacentric height necessary to maintain stability with the more extensive flooding may result in a quick rolling and uncomfortable vessel.

Size.—While the new United States cabin liner will be the largest passenger ship ever built in this country, it is dwarfed by the larger and faster super-liners built abroad, where the trend for years has been in the direction of building larger, faster ships, culminating in the 1,000-foot French liner *Normandie* of 80,000 gross tons and 30 knots speed in 1935 and the British *Queen Mary*, still larger and presumably faster, to come out in 1936. Proposals for 1,200-foot vessels of 35 knots speed have been made in the United States, but as they are too costly for private shipowners to consider and too impracticable from a commercial or naval viewpoint it is unlikely that the Government will build them. A more practical solution of the big ship problem lies in the 900-footer with a speed of perhaps 35 knots, which is what the Germans have in mind for their next venture in this field and which also has been proposed in this country.

Fifty years ago the principal Atlantic liners were single-screw steamers about 500 feet long which required over six days for the crossing. Today quadruple-screw ships over 1,000 feet long make the 3,200 nautical-mile voyage in 4½ days or less. The *Mauretania*, which came out 30 years ago, had a length of 787 feet and a horsepower of 80,000. She constituted an outstanding development in size, speed and comfort for passengers, and lowered all speed records. In her original condition with coal-fired boilers she crossed the Atlantic at an average speed of 26.06 knots. Twenty years later, after being converted to an oil-burner, she made an eastward crossing at an average speed of 27.22 knots.

After the building of the *Mauretania* there followed a period in which increase of size was favored rather than high speed, but in 1928 speed again became the dominating factor with the advent of the German luxury liners *Bremen* and *Europa* followed later by the Italian *Rex* and *Conte di Savoia* and finally the French *Normandie* and British *Queen Mary*.

Propelling Machinery.—In the matter of propelling machinery for liners, striking advances have been made. Diesel engines and turbo-electric drive each have their advocates and each have found considerable application, but the propelling machinery now most favored, particularly for American ships, is geared turbines using high-pressure superheated steam. In the *Mauretania* with 80,000 horsepower the weight of machinery was 9,400 tons and the coal consumption 1.35 pounds per shaft horsepower. In the *Bremen* with 120,000 horsepower the weight is 7,763 tons and the consumption 0.685 pound of oil per shaft horsepower. Builders of the *Bremen* state that today, with modern boilers supplying steam at 900 pounds pressure, an installation of 180,000 horsepower could be fitted with a weight of 7,280 tons and a fuel consumption of 0.575 pound per horsepower and occupying about 17½ per cent less length than the present engines of the *Bremen*. At present the top limit of power has been reached in the *Queen Mary* with 50,000 horsepower per shaft on a quadruple-screw arrangement.

In liners of 30,000 to 35,000 gross

tons and 23 to 25 knots speed, requiring engines of from 12,000 to 25,000 horsepower, the Diesel engine has a place as Diesel engines developing over 20,000 horsepower have just been built for the Italian motorship *Saturnia.*

Structural Features.—As regards structural arrangements, the tendency today is towards greatly increased superstructures, greater height between decks and loftier deckhouses for public rooms. In fast ships there is a tendency towards streamlining the above-water portions of the structure to reduce air resistance, although this tendency is somewhat tentative and is based more upon the aim to secure an attractive exterior than to reduce the power of the ship.

In the matter of accommodations the modern liner has become a floating hotel with spacious artistically decorated and handsomely furnished public rooms and staterooms, differing little from first-class hotels ashore. Indeed, so far has this tendency been carried that there is little left in the appointments to remind the traveler that he is at sea, except the steamer chair on the promenade deck. For some strange reason the steamer or deck chair is seldom used except on board ship.

VIBRATION

One of the problems that has baffled naval architects, particularly in the building of fast liners, has been the vibration of the hull due to the action of the propellers. In some cases the vibration in the stern of the ship has been so great that staterooms on the after decks have become untenable. Recognizing the importance of this problem, The Society of Naval Architects and Marine Engineers, New York, appointed a committee and appropriated funds to investigate the matter, the results of which were reported to the Society at its last annual meeting by Professor Frank M. Lewis of the Webb Institute of Naval Architecture, who conducted the investigation.

Professor Lewis' paper is one of the most important contributions in the field of research in naval architecture that has been made in recent years and is of great importance for the future. The experiments were made with models at the U. S. Model Basin in Washington and later investigations will be made on full-size ships to determine the relationship between the forces measured with the model and on the ship itself.

Vibration generated in the hull of a ship by the action of its propellers is of two types: Unbalance vibration, induced by mechanical unbalance of the propellers or inequality between the blades; or blade frequency vibration, induced by hydrodynamic reactions between the water, the propellers and the surface of the hull in their vicinity. Unbalance vibration can be avoided by propellers having satisfactory balance and equality between the blades. Blade frequency vibration can be dealt with in several ways—by making the conditions at the propellers such that the blade frequency forces are as small as possible, by changing the hull conditions to avoid resonant conditions, or by special devices such as synchronization, dynamic vibration absorbers, etc.

The total vibratory forces acting upon the ship are composed of a part acting directly on the hull surface and a part acting on the blades and transmitted to the hull through the propeller bearings. Professor Lewis showed that the surface forces are the predominant factor, whereas formerly they had been considered as secondary, and from this angle the problem can be attacked in future with better hopes of success in reducing the troublesome vibration.

FIRE-RESISTING CONSTRUCTION

Following the investigations conducted two years ago by George G. Sharp, naval architect, New York, into the methods of reducing the fire hazard on passenger vessels, the Shipping Board Bureau of the Department of Commerce is testing the fire-resisting qualities of the latest approved ship material and equipment on an ocean-going vessel equipped with a number of staterooms and baths constructed of the most modern fire-resisting materials and completely furnished to simulate actual fire service conditions.

Fires will be developed in each of the rooms, and the resulting temperatures ascertained by means of thermocouples located in the rooms and adjacent spaces. By turning an actual ship into a floating laboratory for fire tests it is expected that valuable data will be obtained which will make it possible to reduce the fire hazard on board ship in the future.

HIGH-PRESSURE STEAM

Although steam pressures on American merchant vessels so far have not advanced beyond 450 pounds per square inch, the tendency toward higher pressures and higher temperatures is rapidly developing abroad. The outstanding event of 1935 in this regard has been the addition of a superpressure boiler to the existing normal-pressure equipment in three important Continental vessels. This addition has been made with the provision of a high-pressure turbine to reduce the pressure of the steam to that of the normal boiler plant, the exhaust being led to the initial stage of the existing turbine installation and the additional power from this turbine transmitted to the main shaft through an extra pinion on the main gear wheel.

The largest steamer to be so altered is the *Conte Rosso* of 16,000 horsepower, which operates with steam at 200 pounds per square inch pressure. The new boiler develops steam at 1,900 pounds pressure, and about 5,000 horsepower is added to the power of the vessel. In the other two vessels the super-pressure boilers supply steam at 882 and 700 pounds per square inch respectively.

In the United States a cargo vessel is being designed in which the boilers will supply steam at 1,200 pounds per square inch. With this pressure it is expected that the fuel consumption will be reduced to 0.48 pound per shaft horsepower, and with the marked reduction in the weight of both power plant and fuel a highly efficient vessel will be developed.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ALLIED BUILDING METALS INDUSTRIES, 320 Fifth Ave., New York City.
AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, O.
AMERICAN CONCRETE INSTITUTE, 7400 Second Blvd., Detroit, Mich.
AMERICAN CONSTRUCTION COUNCIL, 28 W. 44th St., New York City.
AMERICAN FOUNDRYMEN'S ASSN., 222 W. Adams St., Chicago, Ill.
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Bellevue Court Building, Philadelphia, Pa.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, 33 W. 39th St., New York City.
AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, 29 W. 39th St., New York City.
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.
AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.
AMERICAN RAILWAY ENGINEERING ASSN., 431 S. Dearborn St., Chicago.
AMERICAN ROAD BUILDERS ASSN., Press Bldg., Washington, D. C.
AMERICAN SOCIETY OF CIVIL ENGINEERS, 33 W. 39th St., New York City.
AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS, 51 Madison Ave., New York City.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS, 29 W. 39th St., New York City.
AMERICAN SOCIETY FOR METALS, 7016 Euclid Ave., Cleveland, O.
AMERICAN SOCIETY OF MUNICIPAL ENGINEERS, 4359 Lindell Bld., St. Louis, Mo.
AMERICAN SOCIETY OF NAVAL ENGINEERS, Navy Department, Washington, D. C.

American Society of Refrigerating Engineers, 37 W. 39th St., New York City.

American Society of Safety Engineers, 25 W. 39th St., New York City.

American Society for Steel Treating, 7015 Euclid Ave., Cleveland, O.

American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa.

American Standards Assn., 29 W. 39th St., New York City.

American Statistical Assn., 114 Woodward Bldg., Washington, D. C.

American Water Works Assn., 29 West 39th St., New York City.

Highway Research Board of the National Research Council, 2101 Constitution Ave., Washington, D. C.

National Aeronautic Assn., 1623 H St., N. W., Washington, D. C.

National Board of Fire Underwriters, 85 John St., New York City.

National Fire Protection Assn., Boston, Mass.

National State Assn., 644 Drexel Bldg., Philadelphia, Pa.

New York Electrical Society, 29 W. 39th St., New York City.

Society of Automotive Engineers, Inc., 29 W. 39th St., New York City.

Society of Naval Architects and Marine Engineers, 29 W. 39th St., New York City.

Society for Promotion of Engineering Education, Univ. of Pittsburgh, Pittsburgh, Pa.

DIVISION XX

GEOPHYSICAL SCIENCES

EARTHQUAKES AND VOLCANOES

By L. Don Leet

Seismologist in Charge, Harvard Seismograph Station

GENERAL

Earthquakes were felt, and attracted public attention, over an unusually large portion of the United States during 1935. Property damage and loss of life were very small. In fact, it doesn't seem to be generally recognized that the total loss of life from all earthquakes in the history of this country is exceeded every couple of months by the death toll from automobile accidents.

India experienced one of its most disastrous earthquakes within modern times, in the vicinity of Quetta, on May 31st. Eighty per cent of the population between Quetta and Kalat were reported to have been killed. The total figures were finally believed to reach 56,000. In actual intensity, this earthquake was much less severe than previous Indian disasters of 1897 and 1905, emphasizing again the importance of location rather than intensity.

THE MONTANA QUAKES

Helena, Montana, was the approximate center of a series of earth shocks still in progress at the end of the year. Preceded by 59 quakes which were felt and counted during six days, and probably many more which were too small to be noticed, a severe earthquake rocked the city shortly after 9:48 p.m. mountain standard time, Oct. 18th. Following this, the Weather Bureau's office in Helena kept records of 1,004 shocks perceptible to residents by Nov. 23. Again, this number is undoubtedly only a part of the total which would have been recorded by sensitive seismographs in the city. Some of these were sufficiently severe to do further damage, and to be recorded by instruments all over the country. One such occurred just after 11:37 a.m. mountain standard time Nov. 31st.

Such a sequence of events is not unusual for earthquakes. Where evidence was available, it has been found that most earthquakes are merely vibrations caused by the earth's crust breaking along a plane called a "fault." They differ from vibrations caused by traffic, trains, or slamming doors only in the amount of energy they transmit as a result of the gigantic forces involved in their generation. Science is as yet unable to go further toward an explanation of the ultimate forces which cause the crust to snap than to state that precise measurements, chiefly in Japan, and other evidence, show that the earth's surface is in a condition of continual unrest, with great blocks heaving, sinking, grinding against each other, and occasionally snapping under the strains. This situation leads naturally to small breaks known as foreshocks, leading up to one, or more, principal shocks, followed by many others as the blocks which moved settle down to new positions of temporary stability.

Unfortunately, while this sequence is not unusual, it is far from inevitable.

Sometimes a "swarm" of minor shocks will not be followed by a major one; at others, there are few, if any, recognizable foreshocks to warn of the impending principal one; while there is no absolute criterion by which the principal shock can be identified and assurance felt that larger ones will not follow. A tragic instance of the last situation occurred in Japan in 1923. In April of that year, Tokyo was shaken by the largest shock of a generation. The country's leading seismologist, believing this to be a principal shock, announced that aftershocks might be expected, but that none more severe would be likely to occur. On Sept. 1, 1923, however, one of the greatest catastrophes of history devastated Tokyo and Yokohama with incalculable property damage and the loss of nearly 100,000 lives.

THE EASTERN EARTHQUAKE

At 1:03:45 a.m. eastern standard time, Nov. 1, an earthquake occurred which was felt in such widely separated cities as Chicago, Boston, New York, and Washington. A preliminary study of reports of the U. S. Coast and Geodetic Survey in Washington indicated that the approximate center of the disturbance on the earth's surface was in the vicinity of North Bay, Canada (46.°4 North Latitude; 79.°4 West Longitude).

This earthquake appears to be exceptional from several viewpoints: (1) Its location emphasizes again that there is no spot on the globe to which we can safely point with the assurance that no earthquake will occur there, for this region has been regarded by many as among the most stable parts of this continent at the present time; (2) The distance to which it was felt, marks it as of greater severity at its source than the "San Francisco" earthquake of 1906, and, on the same basis, about twice as severe as the Long Beach earthquake of 1933 which, owing to its location, resulted in the loss of over a hundred lives, and extensive property damage. Comparison with some other earthquakes in terms of maximum distance felt, is best made by the following table:

	Miles
Lisbon, 1775	1400
Mississippi Valley, 1811	1100 (Boston)
Charleston, 1886	950 (Bermuda)
India, 1897	1000
Maine, 1904	400
India, 1905	1100
California, 1906	350
Long Beach, 1933	250
Quetta, India, 1935	500 (preliminary estimate)
North Bay, Canada, 1935	500 (preliminary estimate)

(3) In spite of the intensity, damage reported seems to have been relatively small; (4) Aftershocks within the next month appear to have been few in number, in contrast to the profusion accompanying the Montana shocks.

Certain of these features have led to the belief that the break in the crust which caused the vibrations constituting the earthquake of Nov. 1 occurred at a depth of many miles, possibly in the neighborhood of 100, below the surface, making it what is technically known as a "deep-focus" earthquake.

CALIFORNIA

An earthquake more severe than that near Long Beach in 1933 was felt in southern California on Dec. 31, 1934. It originated, however, near the head of the Gulf of California, and caused only minor damage, with no loss of life.

PREDICTION OF EARTHQUAKES

During the summer of this year, a great deal of publicity was given to claims of a New York resident that he had discovered a means for predicting earthquakes, based upon some ramification of a tidal theory. Conjunctions of the moon with various planets, and an eclipse of the moon were the occasions of some of his predictions. As usual in the technique of these perennial prophets, the statements were worded with a generality which renered them meaningless: "earth disturbances in islands northeast of Australia for July 11 and 12;" quakes "in China, India, the Philippines." With the example in Montana this year of a large shock followed within a month by over a thousand others, and the fact that there are several hundred a year like that large one throughout the world, it is easy to see that there must be earthquakes occurring at the rate of more than one a minute on the average, considering the globe in its entirety.

It has been found that in any given region the forces causing earthquakes may have to accumulate for scores or hundreds of years before they finally accomplish the principal break which causes an earthquake series. When a strained zone is near the breaking point, some tidal pull, sudden change of barometric pressure, load of water on a coast at high tide, or other phenomenon may supply the trigger effect, the last straw. But it is impossible in the present state of our knowledge to determine when any region is at this breaking point which renders it sensitive to a small ''trigger'' force, hence impossible to predict the time and place of occurrence of any specific earthquake. Investigations of the possible triggering action of various tidal stresses were begun in 1847 and have continued at intervals to the present day, without clearly defined, positive results as yet. Nothing new was contributed to the subject during the summer of 1935, and the first warning this latest ''prophet'' had of the severe Nov. 1st earthquake practically at his doorstep, was the shaking from its vibrations which awakened him rudely in the early morning.

VOLCANOES

University of Hawaii *Research Publication* No. 9, issued in February of this year, summarizes an extensive investigation of earthquakes and ground tilts which occur in connection with volcanic eruptions, as made at the Hawaii Volcano Observatory. It has been discovered that there seems to be a certain definite sequence of events leading up to an outpouring of lava from one of the vents, involving tilts of the ground away from the vent, which reverse a couple of months before the eruption, and swarms of earthquakes in increasing numbers for some months until the moment of eruption.

MINERALOGY AND PETROGRAPHY

By Clifford Frondel

Member, Mineralogical Society of America

MINERALOGY

Structure of Real Crystals.—The notion of a unit of crystal structure larger than the molecule but smaller than any actual crystal, found in the writings of Haüy (1801) and other early crystallographers, disappeared when the concept of a space lattice came into prominence. In recent years, however, several independent lines of reasoning have converged to the conclusion that periodicity of a grosser kind than that of the unit of repetition of the space lattice may exist in real crystals. Such a secondary structure, superimposed on the fundamental space lattice, was early assumed by Darwin to account for the anomalously intense reflection of x-rays from actual crystals, and has been held, notably by Smekal and Zwicky, to be indicated by a supposed lack of harmony between the observed and calculated strengths of crystals. The structure has been pictured as a mosaic or block-like arrangement of crystal fragments or as a periodic loosening of lattice bonds in the real crystal.

In several recent publications, M. J. Buerger of the Massachusetts Institute of Technology has convincingly shown that real crystals are internally partitioned by discontinuities in such a way that the several parts are continuous and rudely branched in a three-dimensional tree-like fashion. The term *lineages* is introduced to cover such crystal subdivisions. Although more obvious in dendritic crystals, lineage structure can be traced in a gradational series from dendrites through parallelly intergrown crystals, crystals with multiple terminations, crystals with so-called ''mosaic imperfections'' to apparently perfect crystals. Buerger maintains that no experimental results requiring a regular secondary structure in crystals have been brought forward, and that the observations which allegedly require a secondary structure are manifestations of lineage structure; further, it is shown that Zwicky's theoretical prediction of a regular secondary structure is invalid.

H. E. Buckley of the University of Manchester also has critically reviewed the various secondary-structure theories in light of new evidence, including particularly the surface perfection and optical homogeneity of many artificial and natural crystals. If a mosaic structure is present at all, the upper limit of size is set at about 500 Ångstroms. On the other hand, in an extended study of artificial barite crystals containing adsorbed potassium permanganate, Balarev found that the crystals are composite, and are composed of a more or less porous aggregate of parallel sub-microscopic crystal individuals, which he identifies with the Smekal mosaic blocks.

Occlusions in Crystals.—Aside from its bearing on the secondary-structure theories, lineage structure is of interest to mineralogists in that interlineage boundaries are the locus of negative crystals and voids. As was early noted by Robert Boyle (1672) and Steno (1669), such cavities may contain entrapped samples of the solution from which the mineral was formed. By investigation crystals of this nature from ore deposits in the Mississippi Valley, Newhouse has succeeded in determining the composition and temperature of the solutions from which the minerals were deposited.

Crystal Structure Investigations.—Whether *vermicularites* are distinct mineral species has puzzled mineralogists for many years. They have often been considered ''hydrous micas''. *X*-ray study of vermicularites, by J. W. Gruner, University of Michigan, has shown that this view is very near to the truth, and that vermicularite is a definite mineral species with a definite crystal structure. The structure consists of silicate sheets, like those of mica, chlorite and talc, between which are interstratified layers of definite thickness consisting of water molecules. Collapse to the talc structure occurs on heating; the characteristic exfoliation, utilized commercially, appears to be a simple mechanical disintegration due to the formation of steam.

The same author, in following up his work on the layered, mica-like crystal structures, has shown that *montmorrillonite* and the *nontronites,* often regarded as related to kaolinite, are also layered structures very similar to the vermicularites. The mineral *glauconite,* familiar as the ''greensand'' of sedimentary rocks, which is used as a water softener, fertilizer and a source of potash, has also been shown to be almost identical in structure with mica. The high per cent of silica and water in glauconite in comparison with that in mica, seems to be due to the environment in which it is formed.

New Minerals.—During the period 1922-1932, 360 new minerals were discovered. Full descriptions of these are given in a recent compilation by Schubnikow and Yuferow (Leningrad, 1935, 167 pp.). Study of samples obtained by the U. S. Geological Survey during its search for potash at Searles Lake, California, revealed a new double sulphate and carbonate of sodium, named *burkeite.* The new mineral *lindgrenite,* named in honor of Prof. Waldemar Lindgren, is a basic molybdate of copper, monoclinic in crystallization, from the copper deposit at Chuquicamata, Chile. *Bismoclite* and *boksputite* are now bismuth minerals from Cape Province, South Africa. The former is bismuth oxychloride, tetragonal in crystallization, and shown by *x*-ray examination to be identical with the artificial product; the latter is a massive lead-bismuth carbonate that may be regarded as a variety of bismutite. *Austinite* is a basic arsenate of calcium and zinc occurring with adamite, at Gold Hill, Utah, as colorless, bisphenoidal orthorhombic crystals. *Sahlinite,* from Langban, Sweden, is a monoclinic chlor-arsenate of lead. It occurs as yellow scales associated with haussmanite in dolomite.

A new manganese mineral, possibly related to nontronite, from veins in

Tertiary volcanic rocks at the Todoroki Mine, Hokkaido, Japan, has been termed *todorokite*. *Mindigite*, a colloidal hydrous cobalt-copper oxide, occurs with stainierite at Mindigi in Katanga, Belgium Congo, as pitch-black, shining crusts on hematite. *Blockite*, a nickel selenide, and *ahlfeldite*, a complex nickel selenate, are new minerals from Colquechaca, Peru. The term *ferri-paraluminite* has been applied to a sulphate of iron and aluminum found as slimy curds in a lake basin near Saratow, Russia.

A new pegmatite mineral, *repossite*, from Olgiasca, Lake Como, Italy, has been described as a salmon-pink phosphate of manganese, calcium and iron. *Igalikite* and *naujakasite* are complex hydrous silicates occurring with barkevicite and arfvedsonite in alkalic dike rocks in south-west Greenland. A solid solution of gold and osmium in cubic iridium, found as bright metallic grains in Uralian platinum concentrates, has been named *aurosmirid*. Two new hydocarbon minerals have also been described: *enelectrite*, occurring as minute monoclinic crystals in amber from Chemahawin, Manitoba; and *kiscellite*, a sulphur-bearing hydrocarbon from sandy, conifer-bearing Oligocene rocks from near Budapest, Hungary.

Publications.—Among the new books of the year, one of popular interest is *"Getting Acquainted with Minerals"* by G. L. English (Rochester, 1935, 324 pp, 258 ills.). Written in an easy conversational style, it is intended to foster interest in the study and collecting of minerals. The *International Tables for the Determination of Crystal Structures*, edited by C. Hermann, W. H. Bragg and M. von Laue, (New York, 1935, 2 vol., 692 pp, 547 ills.), a comprehensive work, is the outgrowth of a conference of crystallographers and research workers in crystal structure in London in 1929. *Die Lagerstätten der Edelsteine und Schmucksteine* by O. Stutzer and W. F. Eppler (Berlin, 1935, 567 pp, 154 ills.), deals with precious and ornamental stones, and is the sixth of a series on the formation and occurrence of the non-metallic minerals.

PETROGRAPHY

Experimental Investigations.—In view of the great importance of the ferro-magnesian silicates as rock-forming minerals, a study of the equilibria relations in the system MgO-FeO-SiO_2 would be expected to reveal facts and relations of much value in deducing the conditions of formation of many rocks. With these considerations in mind, N. L. Bowen and J. F. Schairer of the Geophysical Laboratory, Carnegie Institution of Washington, undertook an experimental investigation of this system. It was found that the system is dominated by three series of solid solutions: a complete oxide series, MgO-FeO; a complete orthosilicate, or olivene series; and an incomplete metasilicate, or pyroxene series.

The Spilite Problem.—The origin of the albite-rich rock types has long been a pressing problem. In several publications appearing during 1935, James Gilluly of the U. S. Geological Survey has reviewed the literature of the albitic rocks and has attempted to evaluate the several theories of their origin advanced in the light of a petrographic and field study of albite-rich rock types occurring in Eastern Oregon. In this region, spilites, keratophyres, albite diabases and allied pyroclastics are intruded by albite granites and occur associated with marine limestones in such a way as to suggest a submarine origin. It is concluded that spilitic rocks are derivates of normal alkalicalcic magmas, and that the highly albitic igneous rock types have been metasomatically enriched with albite subsequently to their consolidation. The enrichment may be brought about by resurgent water from intruded wet sediments, as suggested by Daly, or by albitic solutions derived by deeper-seated differentiation.

Heavy Mineral Analysis.—Following lines suggested by the Committee on Accessory Minerals of Crystalline Rocks of the National Research Council, J. T. Stark of Northwestern University, has described heavy mineral analyses of igneous rocks from 29 localities in Central Colorado, and has found evidence to support the conclusion, earlier indicated by field relations and petrographic studies, that all of the intrusions are related to a parent magmatic source—the Princeton batholith.

Publications.—*Spezielle Petrography der Eruptivgesteine. Ein Nomenklatur-Kompendium,* by W. E. Tröger (Berlin, 1935, 360 pp), lists and concisely describes 777 species of igneous rocks grouped in 32 families under the usual scheme but with quantitative limitations.

TERRESTRIAL MAGNETISM AND ELECTRICITY

By John A. Fleming

Carnegie Institution of Washington

GENERAL

The work of American organizations and investigators in the geophysical fields of terrestrial magnetism and electricity during the year 1935 may again be grouped under the four general headings indicated in The American Year Book for 1934 (p. 736). Important outstanding advances were made in the factual investigation of the natural electric earth-currents and of the ionized (electrical) conditions of the upper atmosphere or stratosphere.

MAGNETIC OBSERVATORIES

The five magnetic observatories of the United States Coast and Geodetic Survey at Cheltenham, Honolulu, San Juan, Sitka, and Tucson maintained continuous photographic registrations of the magnetic state of the Earth showing its regular and irregular changes. At Cheltenham, in cooperation with the Carnegie Institution of Washington, the Survey installed the former's sine-galvanometer for electromagnetic standard in measurements of the magnetic field there from August, 1935; thus the Institution's Department of Terrestrial Magnetism, cooperating with the Survey at Cheltenham, will maintain its provisional international magnetic standards as determined during the past 30 years by its comparisons at nearly all of the world's observatories. At the Tucson Observatory, earth-current and atmospheric-electric registrations were also obtained continuously, the former in cooperation with the American Telephone and Telegraph Company and the Mountain States Telephone and Telegraph Company, and the latter in cooperation with the Carnegie Institution of Washington.

The two observatories of the Department of Terrestrial Magnetism of the Carnegie Institution, namely Watheroo in Western Australia and Huancayo in Perũ, obtained continuous photographic records of terrestrial magnetism and electricity and associated meteorological and solar data. The Institution continued cooperation in the program of atmospheric electricity at the Apia Observatory in Western Samoa.

Other observatories functioning throughout the year in North and South America were: Agincourt and Meanook, Canada; Teoloyucan, Mexico; Pilar, La Quiaca, Orcadas (South Orkneys), and San Miguel (near Buenos Aires), Argentina; Vassouras, Brazil.

MAGNETIC SURVEYS

The Division of Terrestrial Magnetism and Seismology of the United States Coast and Geodetic Survey occupied 35 old magnetic stations to determine changes in the direction of the compass-needle and the magnetic forces acting on it in 14 states and in Alaska. The work of establishing compass-ranges along the rivers on the seaboard and at airports for controlling compass-deviations of ships was continued. Publication was continued of pamphlets giving compass-directions and data pertaining thereto in individual states for the use of surveyors; six such pamphlets and maps were published for California and

Nevada, Florida, Alabama, Georgia, Mississippi, and South Carolina.

In Canada the Dominion Observatory continued observations to determine time-changes in the Earth's magnetism by reoccupying earlier stations. During 1934 to 1935 nearly 50 such stations were occupied in Alberta, British Columbia, Yukon Territory, along the Labrador coast, in Hudson Bay, and in the eastern Arctic. In Mexico the Section of Magnetism of the National Astronomical Observatory continued its magnetic survey and reported upon the results obtained in 1934 at ten stations in central Mexico.

The Carnegie Institution of Washington completed an expedition in southern, eastern, and northern Africa, occupying magnetic stations largely selected from the list of repeat-stations for investigating time-changes of the Earth's magnetism designated by the Association of Terrestrial Magnetism and Electricity of the International Union of Geodesy and Geophysics. Like work was also done at eight stations in central China and at five stations in South Australia.

The magnetic and electric survey of the oceans has been lacking since the destruction of the non-magnetic ship *Carnegie* of the Carnegie Institution of Washington in November, 1929 after seven cruises during 1909 to 1929 covering nearly 350,000 statute miles in all oceans. An outstanding event, therefore, in the annals of geophysical science was the decision in March, 1935 of the British Admiralty to construct a non-magnetic vessel, to be named *Research,* to continue the accurate survey initiated by the *Carnegie.* Not only will the resulting additional observations increase the opportunities of geophysical investigation but they will enhance the value of the earlier data. It is expected that the *Research* may be completed in 1936. An ocean especially poor in magnetic data is the Arctic, and in view of the conditions there it is particularly fortunate that the U.S.S.R. has recently announced plans to construct a non-magnetic vessel to cruise largely in the Arctic Ocean. Thus magnetic and electric data over the seas, by no means adequate either for the construction of accurate magnetic charts for navigational purposes or for the investigation of world-wide geophysical problems, may be confidently expected in an increasing degree. It is to be hoped that, in view of the international character of such activities, others of the chief maritime nations may provide also non-magnetic vessels for more intensive oceanic surveys.

RESEARCH IN IONOSPHERE

The cooperative schedule of observations arranged between the National Bureau of Standards and the Carnegie Institution of Washington was continued throughout the year, observations being obtained at Washington, D. C., at the Huancayo Magnetic Observatory, and at the Watheroo Magnetic Observatory. Some data were also obtained at the University of Alaska. By the end of 1935 the Department of Terrestrial Magnetism of the Carnegie Institution of Washington had perfected and tested equipment for continuous photographic registration of the ionized conditions of the upper atmosphere, that is, the ionosphere, to great heights and over a frequency-range from 300 to 16,000 kilocycles.

A most notable advance in the ionospheric research during 1935 was the discovery by the Carnegie Institution of Washington that the annual maximum and minimum ionization of the highest region (F_2-region at 250-400 km) occurs in the northern and southern hemispheres at the same time. This was made possible through beginning (January, 1935) of ionospheric observations at the Watheroo Magnetic Observatory, Western Australia; the effect was confirmed by continued observation at the Huancayo Magnetic Observatory in Peru. On the basis of previous observations in the northern hemisphere, it was believed that the apparently anomalous behavior of the ionization-changes in this F_2-region was a seasonal effect, and various theories based upon upper-atmospheric heating had been offered to explain the observed effects. With the discovery that these changes of ionization occur simultaneously in the northern and southern hemispheres, it is necessary to reconsider these theories entirely.

Simultaneous measurements of the ionization of the upper atmosphere during 1935 at the Huancayo and Watheroo magnetic observatories and at Washington have shown that major general disturbances of world-wide nature may occur in the highest regions of the ionosphere simultaneously at widely separated locations. Such disturbances have corresponded to days of magnetic disturbance, but occurrences have been so few to date that it cannot be said as yet whether or not this correspondence is coincidental.

MAGNETIC INSTRUMENTS

Particular attention was given in the development of electromagnetic instruments to determine the three magnetic elements and considerable progress was made through the cooperation of the United States Coast and Geodetic Survey and the Carnegie Institution. The introduction of electromagnetic methods upon installation of the sine-galvanometer at Cheltenham and comparisons with standard instruments there have demonstrated the desirability of extending such methods where possible both for work at observatories and in the field. Instruments have been designed and are in construction.

Utilizing the recent rapid developments of special alloys of steel, the Carnegie Institution of Washington has adapted an old idea in development of a recording instrument to determine the vertical component of the Earth's magnetic field, employing elements of specially heat-treated invar steel (perminvar) which is particularly susceptible to changes in magnetic field. This instrument has been under test at the Cheltenham Magnetic Observatory during the latter part of 1935; its performance equals or excells that of any of the types of pivoted instruments heretofore used.

COSMIC RADIATION

The high-precision cosmic-ray meters specially designed by Dr. A. H. Compton (University of Chicago) for the special committee of the Carnegie Institution to coordinate further support for research in cosmic rays were completed in July 1935. One recorder has been functioning at the Cheltenham Magnetic Observatory since January, 1935, a second has been received at the Huancayo Magnetic Observatory in Peru for installation in 1936, and a third is *en route* to Christchurch, New Zealand, and will be in operation also in 1936. It is expected that one meter will be set up near Mexico City and another at Godhavn, Greenland. Of the remaining two meters, one is being kept as a standard at the University of Chicago and the other is being used for experimental purposes at the Massachusetts Institute of Technology pending hoped-for arrangements permitting its permanent installation on Pike's Peak or on Mount Evans near Denver, Col. The cosmic-ray recording apparatus of Dr. Steinke at the University of Cape Town, South Africa, operated through 1935 and will be continued throughout 1936; this will yield comparisons between this type of instrument and the precision cosmic-ray meters through the simultaneous records obtained at Christchurch, New Zealand. During the next few years the records obtained by the precision meters will supply data for accurate investigation of the magnitude of any variations in the intensity of cosmic rays during the day, with seasons, or with the years. These data should furnish also further evidence for or against the presumption that there is an effect on cosmic rays due to the Earth's motion through space.

The cosmic-ray world survey largely supported by the Carnegie Institution of Washington and the Carnegie Corporation was continued on land and sea by registering meters transported on world-encircling steamship cruises and in the upper atmosphere by pilot balloons, airplanes, and stratosphere flights. This survey shows (1) that the variation in the intensity of the cosmic radiation is affected by the Earth's magnetic field—Dr. R. A. Millikan's compilation of data in a chart of equal lines of cosmic-ray intensity at sea-level is surprisingly similar to the world chart of equal lines of magnetic force—, and (2) that a rapid increase takes place in the magnitude of the variation at higher altitudes. Dr. A. H. Compton concludes that the most prominent part of the primary cosmic rays whose effect is observed above sea-level consists of nearly equal parts of positive and negative electrons.

Additional registrations obtained during three round-trip voyages between New York and Valparaiso with the cosmic-ray recorder of Dr. Thomas H. Johnson's design (Bartol Research Foundation of the Franklin Institute) confirm the latitude-effect in agreement with results found by Millikan and also Johnson's earlier conclusion that there is a small difference at sea-level of cosmic-ray showers at Swarthmore (Pennsylvania) and at Vera Cruz (Mexico). The results likewise confirm the difference of six per cent between radiation from the east and from the west previously determined. Dr. Johnson also reports rapid development of coincidence counters for use on pilot-balloon flights, the results being transmitted by radio automatically during the flight; the development of a cellophane balloon promises to carry this lightweight transmitter and cosmic-ray equipment to heights of 50,000 or 60,000 feet and will amplify the results obtained by Regener in Europe. Perfection of such radio technique, if possible at small cost, will be an important improvement in cosmic-ray technique. The results obtained during the flight of the stratosphere balloon *Explorer II* on Nov. 11 to 72,395 feet with the cosmic-ray equipment of Dr. W. F. G. Swann (Bartol Research Foundation) have not yet been announced.

Under the direction of Dr. R. A. Millikan (California Institute of Technology) records with recording electroscopes of cosmic radiation have been continued on airplane flights in Peru at altitudes of as much as 28,000 feet; excellent records were obtained also in 1935 during several flights in the Philippine Islands. The laboratory work at Pasadena resulted in accurate determination of the distribution of cosmic-ray energies by the vertical cloud-chamber method. A new and improved technique for measuring cosmic-ray ionization in the stratosphere was perfected. In the investigation of the separation of cosmic-ray effects at the Earth's surface from local radioactive effects it was concluded that there is no appreciable amount of secondary cosmic-ray effects radiating upward.

ATMOSPHERIC ELECTRICITY

Dr. Ross Gunn (Naval Research Laboratory) proposed a new quantitative theory of electricity of rain and thunderstorms based on the hypothesis that each droplet of water and its surrounding ionized vapor constitutes a concentration-cell of above 60 millivolts difference of potential.

Apparatus for registering air-conductivity in the stratosphere developed at the Department of Terrestrial Magnetism was tested April 21 and 28, 1935, on two flights at Scott Field in an open-basket balloon reaching altitudes of about 27,000 and 26,000 feet, respectively. The registrations indicated that the conductivity for both positive and negative current increased with altitude, reaching at 26,000 feet about 20 times its value at the Earth's surface. On the National Geographic Society—Army Air Corps stratosphere flight when the *Explorer II* reached the world record altitude, successful registrations by this apparatus were obtained; preliminary compilation of results indicates the value of conductivity at the greatest altitude reached was of the order 100 times that at the surface of the Earth.

Professor Joseph G. Brown (Stanford University) continued his analysis of diurnal variation of atmospheric potential-gradient from all available data and proposed a theory to account for the local diurnal-variation as contrasted with the universal-time, 24-hour wave found over the oceans and in the polar regions by the cycles of turbulence, convection, and subsidence at all land-stations on all clear days.

Investigations on factors controlling the electrical conductivity of the lower atmosphere at the Department of Terrestrial Magnetism included studies of fast-moving ions, intermediate ions, and slow-moving ions. Contrary to earlier reports of other investigations, the results indicate that intermediate ions do not diminish at vapor-pressures below saturation; their speed, however, varies with vapor-pressure of the atmosphere.

EARTH-CURRENTS

Largely as the result of the cooperative endeavors during the Second International Polar Year (1932-33) in conjunction with the records obtained at the Huancayo, Watheroo, and Tucson observatories, O. H. Gish reported at the end of December on significant advances in interpretation of the natural electrical earth-currents, the presence of which in the Earth's crust have been known practically since the the invention by Morse of the telegraph. The important features are as follows: there circulate in the Earth at all times great eddies of electric current; in the northern hemisphere there are eight such eddies; four have their centers situated at intervals along a parallel of latitude about 25° north of the equator, and four others seem to be located in the Arctic. In the southern hemisphere a similar arrangement of eddies is indicated by the more limited information so far obtained. The four low-latitude eddies on the side of the Earth toward the Sun are stronger and more extensive than those on the dark side of the Earth. The current in the forenoon eddy of the northern hemisphere circulates about its center in a clockwise direction, whereas in the corresponding eddy of the southern hemisphere the circulation is counter-clockwise. For the afternoon eddies, however, the circulation is counter-clockwise in the northern and clockwise in the southern hemispheres, just the reverse of the case for the forenoon eddies. As one follows the parallels of latitude, the eddies alternate in their direction of circulation. This system of large eddies follows the Sun as if fixed to it. This movement relating to places on the Earth results in changes in the direction and intensity of electric flow at any place during the day and the resulting regular routine which results is repeated day after day indefinitely with superposition at times of the effects of ''earth-current storms.''

SOLAR AND LUNAR RELATIONS

In connection with the cooperative spectrohelioscope-program for watching the Sun during the whole day by observations at a world-net of stations, the Mount Wilson Observatory of the Carnegie Institution of Washington plans to photograph the Sun in hydrogen continuously for greater part of daylight hours at Mount Wilson to obtain solar record for comparison with magnetograms.

The investigations of the lunar magnetic variations at Huancayo in direction (1922-32) and force (1927-32) showed increased lunar diurnal-variations with solar activity. From the average diurnal magnetic variations which are normal for the season, terrestrial-magnetic and solar activity, the individual diurnal-variations on consecutive days deviate mostly in the same way. This quasi-persistence was shown to be effective in solar and lunar diurnal-variations alike. In the southern summer, means of months November to February, the main 12-hourly lunar wave has an amplitude of more than one-third of the 12-hourly solar wave. This lunar wave is, not only in absolute size but also in relative magnitude compared to the solar wave, the largest yet found for any observatory and lends itself to studies of the change of the 12-hourly lunar wave with magnetic activities, sunspot-numbers, etc. For a station so near the equator the radically different seasonal changes of solar and lunar diurnal-variations in magnetic horizontal force are significant. Thus, while the former remains about the same throughout the year, the latter decreases in the ratio of 10 to 1 from December to June. This is a new argument for the assumption that the two variations originate in different layers of the ionosphere.

INTERNATIONAL POLAR YEAR, 1932-33

The compilation of the great amount of data obtained during the

Second International Polar Year is going forward rapidly, and already interpretations and discussions of the resulting data are being communicated by many scattered investigators. J. M. Stagg finds that low average intensity and lack of variety and definition in form of aurorae at Fort Rae, Northwest Canada contrast strongly with the bright displays and structural forms observed at Chesterfield. Thus high auroral frequency at Fort Rae during low sunspot-activity in contrast with low average brightness leads Stagg to suggest that auroral frequency may not be influenced by the solar cycle and that figure and definition of form are probably affected by it.

PUBLICATIONS

The international quarterly *Journal of Terrestrial Magnetism and Atmospheric Electricity* published by the Johns Hopkins Press at Baltimore completed its 40th annual volume in 1935. It includes current developments in the fields of terrestrial magnetism and electricity and bibliography of important publications.

The American Geophysical Union, representing the United States as a unit of the International Union of Geodesy and Geophysics, was increasingly active during 1935. Two volumes of *Transactions* of its annual meetings held in Washington during April give progress-reports and articles concerning geophysical developments in North America.

Science Service compiled and broadcast the American Ursigrams of geophysical data daily throughout the year from the Arlington Station of the United States Navy.

METEOROLOGY AND CLIMATOLOGY

By Robert G. Stone

Blue Hill Observatory, Harvard University

METEOROLOGICAL PROGRESS

The year 1935 has seen more activity and progress in meteorology in America than any year of the last decade. Such is indicated by the growth in membership of the American Meteorological Society and the increased number and value of the papers given at its meetings, by the volume of research published and known to be in progress, and by the marked improvements in the services of the U. S. Weather Bureau. Not only the better economic conditions and increased governmental expenditures for research in connection with its ambitious planning projects and construction of public works, but also the continued advance of commercial and military aviation have called the meteorologist, and to some extent the climatologist, into extended and significant efforts along new as well as old or routine lines. As a combined result of the recent droughts and damaging storms, the policies and activities of the present Administration, and the opening up of many new vocational opportunities in the field, professional people as well as the general public have evinced rapidly growing interest in the study of the weather and climate. The Weather Bureau, the various airlines, the Army and Navy, the universities and colleges, and certain Government bureaus and boards (Forest Service, Soil Conservation Service, National Resources Board, TVA, Mississippi Valley Commission, Bureau of Agricultural Economics) have recently extended or entered work in meteorology and climatology, taking on special personnel for the purpose, so that there is a real shortage of trained men, whereas in the past there were generally very few new opportunities for employment in this line. The quality of the work is also improved, but meteorological research, particularly the theoretical, is still centered in Europe to a great extent, though it is now rapidly attain-ing a more dignified status here. In practical services the major American weather services deserve high rank, however. All these tendencies are gratifying to the profession and seem to augur a new "golden age" in meteorology in this country such as we have not had since the days of the former Army Signal Service meteorological system that preceded the Weather Bureau, set up 1891.

AIR-MASS ANALYSIS OF THE WEATHER MAP

A number of specific trends observable since the depression are noteworthy because they are on the frontier of progress of the science and will bear watching through the next few years. It is hard to rank them but perhaps the most impressive, if not the most significant, is the great interest in learning to apply the so-called "air-mass analysis" methods of studying the weather map which were recommended for the Weather Bureau by the President's Science Advisory Board in 1933. Developed in Norway and Germany soon after the War, first tried here in a limited way by Bjerknes and Giblett (1924) and by Rossby (1926) while on visits from Europe, then by the Navy aerologists (1926), and taught at the Massachusetts Institute of Technology since 1929, it has now become a virtual "rage" with nearly everyone interested in meteorology, especially the younger men who have their eyes to the future. The year 1935 witnessed most of this "conversion" for two reasons chiefly: (1) the Weather Bureau for the first time actively undertook to adopt air-mass analysis on a considerable scale by training some of its men in the technique, employing well trained Massachusetts Institute of Technology men to teach them, and by providing special data and facilities necessary for the purpose; and (2) the publication by the American Meteorological Society of *An Introduction to the Study of Air Mass Analysis* by Jerome Namias, which is the only satisfactory inexpensive and readily available work in English for the beginner. Nearly 2,500 copies of this work have been issued in one form or another and perhaps no other single factor has lately so facilitated the spread of this modern way of looking at the weather processes. Not only professional meteorologists, but engineers, farmers, business men, airplane pilots, teachers, doctors, amateurs, dilettantes, schoolboys and others who "just like to follow the weather" in great numbers, are displaying an eagerness to learn of the rudiments of the air-mass idea that is astounding to a profession always used to the quiet backwash of a small and generally rather conservative science. Air-mass analysis is the practical outcome of the Polar Front theory of atmospheric circulation of Bjerknes and Solberg of Norway; it is only a relatively scientific method of analyzing the weather map preliminary to making a forecast from it; good forecasting, though much facilitated thereby in the hands of a sufficiently trained man, is still something of a canny art which is born in relatively few. The *principles* of the analysis form a powerful tool both for better understanding old facts about the weather, and for discovering new facts, but they require a certain manipulation or modification to fit the peculiar conditions of different parts of the world or even of this country; for the major share in accomplishing the application of the principles to American conditions and thereby making possible the general sharing by the public in the advantages of these new concepts, Professors C.-G. Rossby and H. C. Willett of Massachusetts Institute of Technology were given the Sylvanus Albert Reed Award of the Institute of Aeronautical Sciences on Jan. 30, 1935. This sort of research continues at M.I.T. and is now being undertaken within the Weather Bureau as well as elsewhere to a limited extent.

INSTRUMENTS AND TECHNIQUES

An important corollary to the spread of air-mass analysis is the improvement of instruments and techniques for getting extensive and frequent observations of the conditions of the upper air to great heights at many points about the country, because air-mass analysis considers the atmosphere in three dimensions and must have current upper-air data to realize much of its potential advantage over older empirical methods. These observations this year were obtained by or for the Weather Bureau by instruments mounted on airplanes which flew rather regularly, weather permitting, every day to three or four miles up if possible, from some 20 stations, several more on the average than were in operation last year. Some improvements in the instruments to make them more sensitive so that the flights can be made quicker and cheaper and the reports returned to the forecaster sooner and with greater accuracy, were reported this year by the Navy and by Lange and Spilhaus of M.I.T. The airplane is expensive and cannot fly in very bad weather when the upper air observations may be needed most, so efforts are under way at Harvard's Blue Hill Observatory (and in Europe) to develop a light, cheap, practical "radio-meteorograph," or set of pressure, temperature, and humidity recording instruments with an automatic radio-transmitter, the whole to be sent up tied to a small balloon and the radio signals of the upper-air conditions to be recorded at the ground, also automatically, as they are received from the balloon. The instrument may never be found again but if it is cheaper than an airplane flight and the data sent to the forecaster sooner and in all kinds of weather, then very great advances will accrue. The Blue Hill experiments are so far very encouraging and some practical success seems assured soon. In Russia, Finland and Germany radio-meteorographs have already been used of late, the idea dating back to 1918, but much improvement is still possible. Many other less spectacular improvements in the technique of obtaining and furnishing to the forecaster in convenient manner the observations from the upper air are now continually being made by those actively engaged in this sort of work.

STUDIES OF WEATHER AND CLIMATIC VARIATIONS

Next to air-mass analysis no problem has proved more intriguing to investigators and the public alike than the study of cycles of variation in the weather and correlations of the weather (or climatic) variations at separated points or with oceanographical, astronomical and cosmic factors. The possibility of finding from these studies some useful basis for long-range forecasts lures men on like the fabled "pot of gold"; for years there have been many students of this difficult field but 1935 was a banner year, perhaps because of the recent drought and dust storm epidemic. Unfortunately nothing really new in principle has been uncovered and many of the results are still unconvincing to the cautious and rigorously minded scientist, or else of negative character. There is great need for new and more adequate methods of investigating these questions, what is needed, as Brunt stated in 1927, is more physics and less mathematics. The well known work on tree-rings, glacial varves and lake deposits, and pollen deposits as indicators of past climatic variations and on the variations in sun-spots and the solar constant of radiation as causes of meteorological variations continues in greater measure than before; but it is becoming more and more generally realized that nearly all the solar, magnetic, and meteorological cycles show complex and disconcerting changes of phase, amplitude and length, the geographical variations of which are now being investigated by Clayton, Clough and Miller. In the last year or two much work has been done here towards finding a basis for forecasting crop yields from previous weather, notably by Rose and by Henney; the study of weather periodicities and long-range forecasting is now being taken up by the Bureau of Agricultural Economics, while the Weather Bureau retains its conservative attitude on the cycles problem. Many others are interested in relations of the weather at one place with antecedent weather (or sea temperatures) at some other often distant place which would permit forecasts of the former, but with barely moderate practical success at the best as yet.

STRATOSPHERE EXPLORATION

The assault on the stratosphere by balloon and airplane meets ever greater success; the Massachusetts Institute of Technology has sent up four series of sounding balloons during as many storms, one a hurricane, during the last year, the attached instruments with their records of the upper-air into the stratosphere in many cases having been mostly found and returned to M.I.T. for study. The results will increase our understanding of the relation between changes at the base of the stratosphere and the surface weather which may have great practical value. The crowning achievement of the year in the aviation world, the successful flight of the National Geographic Society—U. S. Army stratosphere balloon, *Explorer II*—to the world's record height of 72,395 feet, was no less a leading meteorological event for the valuable data obtained on certain properties of the atmosphere which have never been studied before at that level. The mysteries of the earth's outer atmosphere—the aurorae, the ozone layer, the ionosphere, etc.,—too are yielding to the ingenious indirect methods of the physicist (though the meteorologist naturally is an interested bystander), as reported in the symposium devoted to this subject by the American Geophysical Union in April, 1935. Aviation experts are now contemplating commercial flying in the sub-stratosphere. Professor R. H. Goddard reports increasing success with experiments on rockets for sounding the outer atmosphere.

UNITED STATES WEATHER BUREAU

The United States Weather Bureau, owing to increased appropriations and the exigencies of the times, made greater advances in its services than for many years, particularly in the river and flood, aerological and airways, and forecasting work; a new hurricane warning service was set up and the Mt. Washington Observatory, N. H., (6270 feet) was partly taken over.

CALENDAR OF METEOROLOGICAL EVENTS, 1935

Jan. 20-25: Following unusual cold wave, a very warm spell with unprecedented rain, snow, floods, slides, etc., does great damage in Washington and British Columbia (BAMS, June-July, p. 165-8).

23-24: Heavy snow in northeast ties up traffic for days.

29-30: Meeting of Inst. of Aeronautical Sciences, New York, 12 papers of meteorological interest (BAMS, Jan., 30, May, 137-8); Profs. Rossby and Willett of M.I.T. given Sylvanus Albert Reed Award for 1934 for application of air-mass analysis in U.S.

Feb. 1: Blue Hill Observatory (Harvard) celebrated 50th Anniversary (*Harvard Alumni Bull,* Feb. 15, p. 584-594).

3: Solar eclipse, special weather observations made by many volunteer observers.

19: M.I.T. sent up 2nd series of sounding balloons from St. Louis.

22: Symposium on Atmospheric Optics, meeting of the Optical Society of America, New York (BAMS, Feb., p. 62).

Mar.: D. Brunt's *Physical and Dynamical Meteorology* appears from press (MacMillan) (BAMS, Apr., p. 98).

22: Reading, Pa., branch of American Meteorological Society organized. March ends long period of abnormal warmth in Pacific Northwest (BAMS, June-July, p. 198).

April 1: The Weather Bureau began telegraphing the temperature of the dewpoint instead of the relative humidity in its regular 8 a.m. reports, this being a convenience to those using physical methods of analyzing the weather map.

13: M.I.T. sent up its third series of sounding balloons from St. Louis.

25-26: American Geophysical Union meeting, Washington, 13 papers in meteorology section, 8 in symposium on earth's outer atmosphere, many others of meteorological interest in other sections; demonstration of radio-meteorograph developed by Blue Hill Observatory; (See "Transactions Amer. Geophys. Un., 1935").

27: American Meteorological Society meeting, Washington, 14 papers (BAMS, Apr., 97, Aug.-Sept., 194, Oct., 215, Nov., 249).

April: winter temperature of 1934-35 found to have averaged milder than normal, except in northeast where it was somewhat below normal. Chas. F. Brooks' *Why the Weather?* (rev. ed. Harcourt-Br.) (BAMS, Aug.-Sept., p. 211-2).

May 1: Weather Bureau changed its 4-hourly airways weather reports and regional teletype weather maps to a 6-hourly service with each major airport station making 4 MS maps per day of the whole country.

Dec.-May: Unprecedented frequency and intensity of dust storms on Western plains; dust reached Atlantic several times.

June: Weather Bureau commenced daily air-mass analysis of the weather map at Washington, with discussion conferences by the staff.

26-29: American Meteorological Society meeting, Los Angeles, 30 papers (BAMS, May, Aug.-Sept., Oct., Nov., Dec.).

27-29: American Meteorological Society meeting, Minneapolis, 35 papers (BAMS, June-July, Aug.-Sept.)

July 1: Weather Bureau entered into cooperation with the Blue Hill Observatory in maintenance of the Mt. Washington, N. H., Observatory and arrangements made to furnish the Mt. W. observations 3 times a day to the airways teletype circuits; Mt. W. reports are especially valuable as upper air data when the weather is bad and airplane data cannot be had (BAMS, Mar., p. 90)

Weather Bureau began daily airplane observations of upper air at El Paso.

Weather Bureau inaugurated new hurricane warning service with offices at San Juan, New Orleans, and Jacksonville; provision made for rapid collection and distribution of reports and warnings and for using tide and swell reports in the forecasts according to methods evolved by Dr. I. M. Cline, of the Weather Bureau, an authority on tropical cyclones.

Planting work begun by Forest Service on shelterbelt project. Highest average monthly temperature on record for some states (Kansas, S. Dak.)

W. E. K. Middleton's *Visibility in Meteorology* pubd. (Toronto). (BAMS, Nov., p. 276.)

7-8: Continued heavy rains and cloudbursts in New York State cause record rainfall and damaging floods.

Portland, Ore., branch, Amer. Met'l Soc. organized.

Aug. 1: Weather Bureau in cooperation with War Dept. began daily airplane upper-air observations at Boston.

10: Second report (1934-35) of Committee on the Weather Bureau, of the President's Science Advisory Board; commends progress made in carrying out Board's recommendations in first report, 1933, and requests the Secretary of Agriculture to provide increased funds for further improvements in the weather service.

Sept. 2-3: Destructive hurricane hits Florida.

3-6: M. I. T. sent up series of sounding balloons from Atlanta while a tropical hurricane passed over Georgia; more than half of the instruments have been recovered.

Sept.: Amer. Met. Soc. published Namias' "Introd. to Air Mass Analysis" in booklet, reprinted from *Bulletins* Aug. 29-Sept., 1934 to May.

Aug. 29-Sept. 14: Meetings of the International Meteorological Organization held at Danzig and Warsaw; attended by W. R. Gregg, Chief, and J. B. Kincer, head of climatological div., U. S. Weather Bureau, who also visited weather bureaus of England, France, Germany, Denmark, Norway, Sweden and Russia, observing European methods and arranging exchange of daily weather reports.

Oct. 1: Weather Bureau inaugurated a new frost and cold wave warning service for Florida, Georgia, and the Carolinas, at Jacksonville.

5: Cold wave in the east, with snow on mountains as far south as Va.

15: Weather Bureau commenced daily sending the air mass and frontal analysis of the weather map as made each morning at Washington over its airways teletype circuits, thus greatly aiding the other stations in checking their analyses and learning the air mass methods.

Weather Bureau began furnishing the ''equivalent-potential temperatures and specific humidities'' of the upper air to its airways stations by teletype; these data are necessary for air-mass analysis and their transmission thus saves work for the meteorologist in the preliminaries to the forecasting, so the forecast can be made sooner or better.

Newark (N.J.) Seminar of the American Meteorological Society organized.

16: A radio-meteorograph was installed on the Boston weather airplane for regular experimental service, by Blue Hill Obsy.

20: Maj. Gen. Adolphus W. Greeley, U.S.A., died; he was in charge of the U. S. Signal Service meteorological system, the predecessor of the Weather Bureau, from 1887 to 1891, and author of a once widely read work on ''American Weather'' (1887).

Nov. 11: National Geographic Society—U. S. Army balloon, *Explorer II*, attains 72,395 feet in the stratosphere, a world's record.

16-18: Severe storm does $15,000,000 damage along Atlantic coast.

19: Seattle branch of the American Meteorological Society organized (BAMS, Nov., p. 294).

Oct.-Nov.: Mild dry autumn in the east.

Dec. 2: Seminar on ''Weather and Crops,'' Manhattan, Kansas (BAMS, Dec., 1935).

25-30: Unusually cold weather and snows in the far South.

30-31: Annual Meeting of the American Meteorological Society, St. Louis, 25 papers (BAMS, Nov., p. 247, and forthcoming 1936 issues).

AMERICAN EXPLORATION

By Robert M. Brown

Professor, Rhode Island College of Education

POLAR REGIONS

Byrd Expedition.—Rear Admiral Richard E. Byrd returned from the Second Byrd Antarctic Expedition. The *Bear of Oakland*, barkentine, with a long record of polar voyages, the flagship of the expedition, and the entire personnel which sailed during the autumn of 1933 reached the Washington Navy Yard in May, 1935. Admiral Byrd announced the possession for the United States of a great area in Antarctica; the discovery that the great unknown area between longitudes 60° W and 120° W is a part of the Pacific Ocean; over 800 hours investigation of cosmic rays; airplane flights of 26,000 miles; thousands of ground and upper-air observations in meteorology; a count of meteors with the conclusion that more of these visitors strike the earth's atmosphere than was formerly suspected, and the settlement by airplane investigation of the question of whether there were two continents or one in the south polar region, annulling the idea that the Ross and Weddell Seas were connected.

Ellsworth-Wilkins Expeditions.—Lincoln Ellsworth and members of his expedition with Sir Hubert Wilkins, arrived in Montevideo during February, 1935 on the supply ship, *Wyatt Earp*, from Deception Island after three months in the Antarctic. The expedition reports finding on Snow Hill Island the fossilized remains of fishes of a very early era. The island is reported to be the only one of the group not covered by the ice of Weddell Sea, and conditions were so poor for animal life that but a single penguin was seen. The expedition contemplated flights from Deception Island, particularly over the questionable area between Weddell Sea and Ross Sea but one set-back after another forced an abandonment of trans-antarctic flights. On Jan. 3, 1935 the expedition got its airship into the air for a two-and-one-half-hour flight and mapped five new islands, three fiords and several mountain peaks. On Oct. 16, 1935 Lincoln Ellsworth and Sir Hubert Wilkins sailed again from Montevideo for the Antarctic. With them were the aviators Hollister Hallock-Kenyon, a Canadian, and M. M. Lynwurnor. It was planned to make a 2,800-mile flight in their Northrop monoplane *POLAR STAR* before January 1, 1936.

On Nov. 20 an attempt was made to fly across the Antarctic continent, but after flying a little more than three hours, they were back at the station with a broken fuel gauge. Again on Nov. 21, they set out and returned after covering almost a third of the distance across Antarctica to Ross Sea. Storm conditions made it seem unwise to continue. On this flight, Ellsworth reported finding a great mountain chain beyond Stefansson Strait, apparently the extension of the chain on Graham Land. On Nov. 23, the pair attempted again the flight across the continent to Ross Sea; after messages stating that all was well in the first hours of the flight, no word was received from them.

Bartlett in Greenland.—Captain Robert (Bob) Bartlett on the *Morrissey*, with a commission to collect birds for the American Museum of Natural History, New York, to obtain narwhals for the Field Museum in Chicago and magnetic iron for the Smithsonian Institution in Washington, spent the summer about Disko Bay on the west coast of Greenland.

NORTH AMERICA

Panama.—Washington University and the Missouri Botanical Garden united in a joint expedition to seek plant specimens in the jungles of Panama. Members of the party were Dr. Carroll W. Dodge and Dr. Julian Steyermark of Washington University and Paul Allen who represented the Botanical Garden. A. J. Drexel Paul of Philadelphia and Dr. R. K. Enders of Swarthmore College were in Panama during the summer of 1935 collecting mammals and fishes.

Mexico.—Under grants from the American Philosophical Society two expeditions spent the summer on the plateau of Central Mexico. Dr. Henry A. Pilsbry headed one party in search of fossils and living snails, and Dr. Francis W. Pennell sought for plant species.

Alaska.—Bradford Washburn was appointed leader of the National Geographic Society's Yukon Expedition of 1935. A two-thousand square mile area in southwestern Yukon territory was mapped. Two of the mountains discovered by the expedition were named King George and Queen Mary in honor of their Majesties' Silver Jubilee. The King sent a telegram of congratulation upon the expedition's making the first crossing of the St. Elias Range from Yukon to Alaska.

Bermuda.—Dr. William Beebe of the New York Zoological Society returned in October from his twenty-first expedition after five months spent in field work in the vicinity of Bermuda. This year Dr. Beebe conducted studies of the deep-sea eels, shore fishes and tunas. Experiments with powerful submarine, ultra-violet beams were undertaken.

SOUTH AMERICA

Venezuela.—Dr. Alfred V. Kidder, Harvard University, returned early in the year from Venezuela where he directed the Harvard Archeological Expedition. Excavations were carried on at Los Tamarindos and in the desert and mountains west of Lake Valencia.

Two distinct civilizations were uncovered at Lake Valencia, one in stratified sands and gravels extending from three to 25 feet in depth, and a second in the top soil. No relation between the two was found.

Guatemala.—In the central highlands of Guatemala, Rodolphe M. de Schanensee of the Academy of Natural Sciences of Philadelphia collected birds, fishes, and orchids and made a study of the life in Lake Atitlan, 5,000 feet above sea level.

Bolivia.—Under a grant from the American Philosophical Society, M. A. Carriker Jr. of the Academy of Natural Sciences of Philadelphia made a large collection of birds among which are a number never before recorded in this country.

Amazon Basin.—Dr. Robert S. Platt of the University of Chicago left during September, 1935 for a trip up the Amazon to survey the Andes from a plane and also the eastern regions south from British Guiana.

Ecuador.—The Andes-Amazon Expedition, sponsored by the Museum of the American Indian, sailed during August to study the Ssabela Indians in the Upper Amazon Valley and to collect specimens for the Museum. The Expedition is in charge of Captain Eric Erskine Loch.

ASIA

Tibet.—Arthur S. Vernay and Suydam Cutting left for Tibet during June to collect anthropological materials for the American Museum of Natural History and botanical specimens for the New York Botanical Garden. The consent of the Grand Lama of Tibet has been obtained and, in accordance with Buddhist principles, no living animal will be disturbed.

G. T. Bowles who conducted a two-year study of the anthropological measurements of the people living in the disputed border country between southwestern China and southeastern Tibet has been sent again to Tibet by Harvard University. With Mrs. Bowles, he sought the beginnings of the Tibeto-Burman people between Tibet and the southern Himalayan foothills. The isolation of these peoples by the deep valleys and rugged mountains has tended to keep the strain free from invasion and foreign admixtures. Types already measured are strikingly like the American Indians. It is postulated that, whereas the Tibetan group became isolated in migration, other branches spread eastward and northward through Siberia and eventually across Bering Strait.

Burma.—Arthur S. Vernay of the American Museum of Natural History returned in May from an expedition up the Chindwin River with pelts and parts of 900 mammals, 800 birds and reptiles, fish and insects. The prize catch was a loris, a small rare Asiatic tree-dwelling lemur.

Near East.—The Field Museum Anthropological Expedition to the Near East completed its work during the early part of 1935. Under the leadership of Henry Field the expedition travelled 17,000 miles and took measurements of 3,000 persons. In addition to the anthropometric work the expedition collected 3,000 animals, 1,000 insects, 2,600 plants and a quantity of geological specimens. An attempt was made to determine the relationship of the people of Iraq, Persia, and Transcaucasia to the modern and ancient peoples of Africa, Europe and Asia.

India.—The second North India Expedition under the leadership of Dr. Hellmut de Terra of Yale University worked during 1935 in the southern Himalayas and the foothills about Kashmir. The expedition sought further traces of prehistoric man to match with the fossil ape unearthed in Northern India in 1934. The investigations were carried on under the auspices of Yale University, The Carnegie Institution of Washington, the American Philosophical Society, the Geological Survey of India and the Cenozoic Research Laboratory in Peiping.

Mesopotamia.—In an expedition sponsored by the American School of Oriental Research and the University of Pennsylvania Museum, Dr. Charles Bache, field director, recently reported the discovery in Northern Mesopotamia of the ruins of what is believed to be the oldest known city with an estimated age of 5,700 years.

AFRICA

Central Africa.—An expedition of the Academy of Natural Sciences of Philadelphia, under the leadership of George Vanderbilt of New York, brought back specimens of gorillas and okapis together with large collections of other mammals and birds, insects, fishes and reptiles. The expedition traversed Kenya, Uganda, the Belgian Congo, French Middle Congo, the Cameroons and the French Sudan.

Belgian Congo.—The Harvard-African Expedition under the auspices of the department of tropical medicine of Harvard University returned during the early part of the winter 1934-35. The expedition obtained some 226 bird skins and about 25 mammal skins. A collection of 125 plants was made for the Gray Herbarium, and insect, mollusk and other invertebrates for the Museum of Comparative Zoology. The main object of the expedition under the direction of Dr. Richard P. Strong was the carrying on of medical and biological investigations on onchocerciasis in the regions of the Belgian Congo.

PACIFIC OCEAN

A joint expedition of the Scripps Institution of Oceanography and the United States Hydrogaphic Office, under the direction of Roger R. Revelle, established 18 stations in the Pacific to test water compositions and temperatures at various depths from the surface to two miles below sea level. The expedition started in the North Pacific near the Aleutian Islands, crossed the Japan current and finished its survey in tropical waters. It is hoped that the data may give some aid in forecasting seasonal rainfall and fisheries production.

OCEANOGRAPHY

By H. A. Marmer

United States Coast and Geodetic Survey

ATLANTIC OCEAN

Ice Patrol and Cruises.—The annual ice patrol of the area in the vicinity of the Grand Banks of Newfoundland was resumed by the Coast Guard early in March, 1935. This is carried out for the practical purpose of safeguarding the North Atlantic steamer routes between Europe and America. To carry out this duty effectively, oceanographic observations are necessary. Hence, during this season nine isothermal charts were prepared for the region of the Grand Banks from data collected by the ice patrol vessels. Three current surveys of the critical area were made to a reference level of 1,000 decibars. In all, nearly 300 oceanographic stations were occupied and about 100 water samples for the determination of oxygen and helium content were taken. On a post-season cruise an intensive survey of the Labrador Deep was made in the vicinity of the supposed Newfoundland Ridge during which more than 2,000 fathometer soundings were taken.

Tide Observations and Hydrographic Surveys.—The Coast and Geodetic Survey maintained 21 primary tide stations along the coast from Maine to Florida for the purpose of hydrographic control, tidal research, and for determination of changes in sea level. Three ships continued surveys on the continental shelf off the Virginia coast, extending detailed precise surveys out to the 1,000-fathom depth. Additional submarine valleys were discovered. In addition to their value to navigation, these valleys are of great interest to geologists, their discovery casting light on various geologic and oceanographic problems.

The Woods Hole Oceanographic Institution continued chemical and physiological investigations in the Gulf of Maine and in the waters between Woods Hole and Bermuda. Hydrographic sections were run north and south of the Tail of the Grand Banks, and dredgings were made on the sides and bottom of the newly discovered canyons at the edge of the continental shelf off Delaware and Maryland.

PACIFIC OCEAN

Hydrographic Surveys.—The Hydrographic Office of the U. S. Navy completed the hydrographic survey of the Pacific coast of Panama from the Colombian to the Costa Rican boundary. In addition, a survey of the Gulf of Nicoya was conducted in connection with which 20 dynamic oceanographic stations were occupied. Surveys were also conducted in the Aleutian Islands and a number of dynamic oceanographic stations occupied. The U. S. S. *RAMAPO* made three trans-Pacific passages adding over 3,000 sonic soundings.

Vessels of the Coast and Geodetic Survey continued surveys off the coast of California, using radio acoustic ranging for the control of offshore sounding. The detailed features of the underwater topography resulting from these surveys brought to light a number of submarine valleys of importance to navigation and of interest to the student. Several ships continued surveys in the Aleutian Islands westward of Unimak Pass.

Tide Observations.—Nine primary tide stations were maintained in continuous operation by the Coast and Geodetic Survey along the coast from California to Alaska furnishing hydrographic control, data for tidal research and for the determination of changes in sea level. Toward the end of the year an investigation of the surge and seiche phenomena in Los Angeles Harbor was made.

The Oceanographic Laboratories of the University of Washington conducted a detailed study of the offshore waters from Vancouver Island to San Francisco down to a depth of a little more than 10,000 feet. In cooperation with the Coast Guard and the Navy, hydrographic stations were established on two lines across the North Pacific to the Aleutian Islands. Detailed studies on the composition of the ocean waters were carried out and it was found that the deuterium oxide content of the ocean waters is twice that of river water, while coastal waters contain a higher percentage of dissolved iron than do the waters of the open sea. Studies were continued on the action of anaerobic organisms in relation to the control of sulfite waste from paper mills discharging into the sea.

GULF OF MEXICO

The Coast and Geodetic Survey maintained in operation four primary tide stations furnishing tide data, hydrographic control, and data on sea level changes in this body of water. One vessel continued surveys off the coast of Louisiana and is extending detailed precise hydrography from the coast to the 100-fathom curve which, in this locality, is 100 miles offshore. This detailed survey is disclosing a number of interesting submarine features.

DEPTH OF SEDIMENTS

Heretofore, it had been practically impossible to determine the depth of the unconsolidated sediments on the continental shelf, a knowledge of which is of utmost importance in the study of the history of the coast. During the past year, experiments with seismic methods were made. In cooperation with the Coast and Geodetic Survey, the Geological Society of America and the American Geophysical Union, the Woods Hole Oceanographic Institution research vessel *ATLANTIS* carried out an investigation on the possibility of measuring the thickness of the sediment on the continental shelf by seismic methods. The results of this investigation proved encouraging, indicating that this is a promising method in oceanographic research.

AMERICAN GEOPHYSICAL UNION

The annual meeting of the Section of Oceanography of the American Geophysical Union was held in Washington April 26, 1935. Papers were presented by representatives from the various Federal and educational institutions engaged in oceanographic work, outlining the progress and development of oceanography during the past year. These papers appear in full in Part 1 (pages 200-266) of the *Transactions of the American Geophysical Union*, published by the National Research Council in August, 1935.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 1852, Tulsa, Okla.

AMERICAN GEOGRAPHICAL SOCIETY, Broadway at 156th St., New York City.

AMERICAN METEOROLOGICAL SOCIETY, Blue Hill Observatory, Milton, Mass.

APPALACHIAN MOUNTAIN CLUB, 5 Joy St., Boston, Mass.

ASSOCIATION OF AMERICAN GEOGRAPHERS, University of Pennsylvania, Philadelphia, Pa.

EXPLORERS CLUB, 10 W. 72nd Street, New York City.

GEOLOGICAL SOCIETY OF AMERICA, 419 W. 117th Street, New York City.

NATIONAL GEOGRAPHIC SOCIETY, Washington, D. C.

SEISMOLOGICAL SOCIETY OF AMERICA, Clark University, Worcester, Mass.

DIVISION XXI

CHEMISTRY AND PHYSICS

PHYSICS AND PHYSICAL CHEMISTRY

By F. G. Tucker

Professor, Oberlin College

NUCLEAR PHYSICS

The year 1935 has not witnessed any single discovery comparable in importance to heavy hydrogen, the neutron or artificial radioactivity. Nevertheless much notable work has been done.

In the nuclear transformations previously reported the bombarding particles were alpha particles, protons, deuterons and neutrons. These same particles were observed in the products of the transmutation. Furthermore, in many cases penetrating gamma ray photons were emitted. The origin of these is attributed to the release of energy when the new nucleus returns to its lowest energy state from an excited state.

The principle of conservation of energy suggests the possibility of a reverse process, *i. e.* the transmutation of nuclei struck by photons of sufficiently high energy.

Chadwick and Goldhaber (*Proc. Roy. Soc. A.* 151:479) have observed such a nuclear photoelectric effect from the nuclei of deuterium and beryllium irradiated with gamma rays from thorium C″. In the case of deuterium the mechanism of the process is assumed to be

$$_1D^2 + h\nu \rightarrow {}_1H^1 + {}_0n^1$$

The symbolic notation is explained in The American Year Book, 1934 p. 776.

It is evident that the energy $h\nu$ of the incident photon must exceed the binding energy of the struck nucleus in order for the transmutation to occur. Furthermore, in order to establish the validity of the assumed process it is necessary to detect both of the ejected particles. The ejected protons, called photo protons by the authors, were detected by an ionization chamber filled with heavy hydrogen which was connected to a linear amplifier and oscillograph. Control experiments showed that the kicks of the oscillograph were not due to stray neutrons from the source of gamma rays. The neutrons were detected by the induced artificial radio-activity in silver foil.

The energy of the ejected protons was estimated to be about 0.24 m.e.v. (million electron-volts) and since the mass of the neutron is practically the same as that of the proton it should acquire the same energy. The energy of the incident photons was 2.61 m.e.v., hence 2.1 m.e.v. were required to disrupt the deuteron. From Einstein's relation between mass and energy this binding energy of the deuteron is equivalent to 0.0023 atomic weight units. From these results and the masses of the proton and deuteron the calculated mass of the neutron is 1.0090 mass units. This value is definitely larger than the mass of the proton.

Although many other elements were examined for a nuclear photoelectric effect, positive results were obtained only in the case of beryllium. With beryllium the process is assumed to be

$${}_4Be^9 + h\nu \rightarrow {}_4Be^8 + {}_0n^1$$

The discovery of the nuclear photoelectric effect is extremely important because it gives a direct method of studying the interaction of electromagnetic radiation with atomic nuclei.

Fermi and his collaborators have continued their pioneer work on the effects of neutron bombardment, (*Proc. Roy. Soc.* A 149:522). Their previous results were checked and extended using an improved experimental technique. The activity of the excited element was measured with an ionization chamber and the velocity of the impinging neutrons was varied by the introduction of absorbing screens rich in hydrogen. In general the absorption of the slow neutrons was found to be much greater than that of the fast ones, and for certain elements, notably cadmium, the absorption was abnormally high. Also certain elements emitted gamma rays under bombardment with slow neutrons but showed no effect when exposed to fast ones. The authors tabulate their previous results, as revised, and include radioactive products from 21 elements.

The most complete study of the absorption of both fast and slow neutrons in various elements has been made by Dunning, Pegram, Fink, and Mitchell at Columbia University. (*Phys. Review* 48:265). Instead of detecting the neutrons by means of induced radioactivity an ionization chamber lined with lithium was used. A lithium nucleus struck by a neutron disintegrates into an alpha particle and a nucleus of the hydrogen isotope of mass three. These particles ionize and the ionization current is detected. For slow neutrons the transformation efficiency in the lithium is so high that practically every slow neutron is captured in travelling a distance of one millimeter.

With fast neutrons no unexpected results were obtained. The slow neutrons were produced by transmission through screens of paraffin or water about ten cms. in thickness. Ordinary water was found to be 5.5 times as effective as heavy water in reducing the velocity of the particles. The absorption of the slow neutrons in 73 elements was studied and the results tabulated. Cadmium, samarium, and gadolinium showed enormously high absorption. In the case of cadmium, a screen only 0.005 cms thick absorbs 50 per cent of the incident beam of particles while with lead a thickness of 2.5 cms is required for the same absorption. Further experiments showed that less than one per cent of the neutrons striking cadmium were scattered elastically which is additional evidence that the neutrons are captured by the nuclei of the cadmium atoms.

Mme. Irene Curie Joliot, Alban and Preiswerk (*Jour de Phys.* (7) 6:361) activated thorium by neutron bombardment and were able to detect five artificially radioactive elements. Two of these were not previously known. The half periods of the elements were 1 min, 2.5 min, 12 min, 25 min, and 3.5 hours. Their chemical behavior was similar to radium, protactinium, actinium, thorium and actinium respectively. Four of these elements should have atomic weights of the form 4n + 1 where *n* is an integer. The families of naturally radioactive elements have atomic weights of the forms 4n + 2, 4n + 3, and 4n respectively. These facts suggest that if the new radioactive family is stable enough to exist in nature it should derive from a rare isotope of uranium. However, the authors' attempts to detect the presence of the new elements in uranium nitrate were unsuccessful.

CHEMICAL DETECTION OF ARTIFICIALLY PRODUCED ELEMENTS

In the numerous cases of artificial transmutation reported in the last few years the products of the transmutation were detected in every case by very sensitive ionization methods. In no instance was the new element produced in sufficient quantity to be detected by ordinary chemical methods. Paneth and Loliet (*Nature* 136:950) have recently achieved this goal by observing spectroscopically the helium produced when boron is bombarded with neutrons. The process in this case is

$${}_5B^{10} + {}_0n^1 \rightarrow {}_3Li^7 + {}_2He^4$$

By bombarding the methyl ester of boron with neutrons from a 2200 milli-curie radon beryllium source, for a period of seven weeks, they were able to detect the helium lines with the spectroscope and also to measure the amount of helium, which was 1.3 x 10^{-7} cc. A blank test conducted for a period of nine weeks showed no trace of helium. From the amount of helium produced it is concluded that a millicurie of radon mixed with beryllium produces more than 3000 neutrons per second.

MASSES OF LIGHT ATOMS

From an analysis of transmutation data H. Bethe (*Phys. Rev.* 47:633) concludes that the accepted masses of the light atoms, which are derived from mass spectrograph measurements are slightly in error. The difficulty is most evident in the case of beryllium, mass 9. Transmutation data points to a mass of 9.011 while the formerly accepted value is 9.0154. If the latter value is correct the nucleus should be unstable, which is not in agreement with the experimental facts. The difficulty seems to be due to an error of about three parts in 10,000 in the ratio of helium to oxygen. Bethe, therefore, suggests the following values for the masses of the light atoms: neutron 1.0085; hydrogen 1.00807; deuterium 2.01423; helium 4.00336.

Aston (*Nature* 135:541) agrees that a revision of the mass scale is necessary and suggests the following tentative values: hydrogen 1.0081; deuterium 2.0148; helium 4.0041; and carbon 12.00148. These are based on new measurements with the mass spectrograph using increased resolving power, but the author claims an accuracy of only one part in ten thousand. Nuclear transmutation equations demand an accuracy of one part in 100,000 and Aston is confident that atomic masses of this precision will be provided within a year or two.

MASS SPECTROGRAPH MEASUREMENTS

With the apparatus used for his work on the rare earths Aston has determined the isotopic constitution of 13 elements. (*Proc. Roy. Soc. A* 149:396) With this work the total number of stable isotopes known was raised to 247. Among the more common elements the only ones that had not been analyzed with the mass spectrograph were platinum, iridium, palladium and gold. The isotopes of these were determined a few months later by Dempster (*Nature* 135:542, 993 and 136:65, 909). By means of sparks between solid electrodes in vacuo, Dempster was able to obtain charged metallic atoms which were deflected 90 degrees in a cylindrical condenser and then 180 degrees by a magnetic field. Platinum was found to contain five components with masses 192, 194, 195, 196 and 198; palladium, six components: 102, 104, 105, 106, 108 and 110; iridium, two components: 191 and 193; and gold only one component of mass 197. Since the atomic weight of gold is 197.2 a component of mass 199 was anticipated, but no trace of it was found. Uranium was also found to have a small percentage of atoms of mass 235, which had not been reported in the previous work of Aston.

VALUE OF ELECTRONIC CHARGE

Since 1928 several physicists have suggested that the discrepancy in *x*-ray wave-lengths measured by crystal diffraction and by the plane reflection grating was probably to be attributed to a slight error in the accepted value of the electronic charge. In Siegbahn's laboratory Backlin (*Zeit. für Physik* 93:450) has made a very precise determination of the wave-length of the K alpha line of aluminum using a plane glass grating. His result of 8.3395 Å with an estimated error of = 0.0010 A, gives a value for Avogadro's number of 6.02 x 10^{23} and for the charge on the electron 4.805 x 10^{-10} e.s.u.

In Millikan's famous oil drop method of determining the electronic charge it is necessary to know the coefficient of viscosity of air. This coefficient has recently been redetermined by G. Kellstrom (*Nature* 136:682). The rotating cylinder method was used and the mean of 51 determinations, adjusted to a temperature of 23° C. is 1834.8 ± 3 x 10^{-7}. This value is slightly higher than that used by Millikan and it yields a value for ‘‘e’’ of 4.818 ± 0.012 x 10^{-10} e.s.u.

These results seem to remove the disturbing discrepancy in the values of ‘‘e’’ determined by two different methods. As Birge (*Phys. Rev.* 48: 918) points out, however, this new value calls for a more precise determination of the ratio ‘‘h/e’’ where ‘‘h’’ is Planck's constant.

COSMIC RAYS

The numerous workers engaged in cosmic ray investigations are now in agreement concerning the major experimental facts. There is still considerable divergence of opinion, however, in regard to the theoretical interpretation of these facts. During the year four important summaries of the established facts have been published; A. H. Compton, *Proc. Phys. Soc.* London 47:747; T. H. Johnson, *Jour. Franklin Inst.* 220:41; P. M. S. Blackett, *Phys. Zeit.* 36:773; and H. Geiger, *Ergebnisse der Exakten Naturwissenschaften Bd.* 14:42.

One of the essential points on which agreement has been reached is that the primary radiation consists almost entirely, if not completely, of high speed charged particles having electronic mass. But the nature of the various secondary rays is still a matter of dispute. Furthermore, no satisfactory explanation has yet been advanced for the large number of particles observed in the so called ‘‘bursts’’ of ionization that are observed.

Practically all American work in this field is coordinated by a special committee of the Carnegie Institution of Washington and a summary of results is given in the report on Terrestrial Magnetism and Electricity in this volume. (see ‘‘Terrestrial Magnetism and Electricity’’ pp. 662-667)

X-RAY INTERFERENCE

The fundamental theory of the diffraction of x-rays by a single crystal has been considered to be reasonably complete since the excellent analyses of the problem by Ewald and Darwin. In this theory, and in all the earlier experimental work, the x-rays from an external source are allowed to pass through the crystal and are diffracted by the atoms or ions of the lattice. In 1924 Kossel suggested that one should also be able to obtain diffraction patterns if the atoms of the diffracting crystal itself were the source of the radiation. The successful demonstration of this effect has been achieved by Kossel himself (Kossel and Voges, *Ann. der Physik* 23:677). A single copper crystal, excited by cathode rays, was the source of radiation, and the patterns were photographed on a plate parallel to the crystal surface at a distance of a few cms. Von Laue (*Ann. der Physik* 23:705) has given a complete theory of the observed patterns by applying the reciprocity law of electro-magnetic theory which was stated in its general form by Lorentz in 1905. A brief and masterly survey of the whole problem was given by von Laue in his Princeton Lectures, October, 1935, and published in the brochure ‘‘Die Interferenzen von Röntgen und Elektronenstrahlen’’, J. Springer, 1935.

NEW LOW TEMPERATURE RECORD

Using the method of magnetic cooling described in THE AMERICAN YEAR BOOK, 1933, W. J. Haas (*Nature* 135: 302) has attained a new lowest temperature of 0.005 degree absolute.

PROPERTIES OF MATTER UNDER EXTREMELY HIGH PRESSURES

Bridgman (*Phys. Rev.* 48:825 and 893) has studied the behavior of certain substances when subjected to high pressure combined with a shearing stress. The test specimens were in the form of thin discs confined between hardened steel parts. Under combined pressure and shear many substances that are normally stable exploded with varying degrees of violence. The list of substances that detonated included celluloid and lead dioxide, which left a residue of metallic lead. Lead monoxide did not explode but completely decomposed to a film of metallic lead. Wood, linen and paper changed to a horn-like translucent substance and red phosphorus changed to the dense black modification. Although a satisfactory explanation of the detonations has not yet been given, the author has shown that it is not due to a pure temperature effect.

Certain mixtures of elements were found to combine explosively when subjected to the high pressure. Copper and sulphur for example combined at a pressure of 20,000 kg/cm. These experiments open up a new and almost inexhaustible field of research which promises many new and important developments.

In the second article an improvement in experimental technique is described. New pistons made of carboloy, a new cemented carbide of tungsten and cobalt, are used in place of those made from hardened steel. With the new apparatus pressures in excess of 50,000 kg/cm, which was the upper limit with steel, are possible. At these extreme pressures new modifications were found for the elements: bismuth, mercury, thallium, tellurium, gallium, and iodine.

Theoretical considerations indicate that under high pressures potassium, sodium and lithium salts should change from a simple cubic lattice of the NaCl type to a body-centered structure such as CsCl. In the case of the potassium salts the predicted transitions occurred at pressures of 20,000 kg/cm, but even 50,000 kg/cm was not sufficiently high to bring about the transition in the salts of sodium and lithium.

COMPLETENESS OF QUANTUM MECHANICAL DESCRIPTION OF PHYSICAL REALITY CONSIDERED

A. Einstein, B. Podolsky and N. Rosen (*Phys. Rev.* 47:777) answer the question on this point in the negative. A complete theory, according to the authors, must satisfy the necessary requirement that "every element of physical reality must have a counterpart in the physical theory." As a criterion for physical reality they suggest: "If without in any way disturbing a system we can predict with certainty (*i.e.* with probability equal to unity) the value of a physical quantity, then there exists an element of physical reality corresponding to this physical quantity." From consideration of the problem of predicting the behavior of a system "A" from measurements made on another system that had previously interacted with "A", they conclude that the description given by the wave function is not complete. They believe, however, that a theory giving a complete description according to the above criterion is possible.

N. Bohr (*Phys. Rev.* 48:696) does not consider the above argument adequate for problems of atomic physics. In his opinion the "finite interaction between object and measuring agencies conditioned by the very existence of the quantum of action entails . . . a radical revision of our attitude toward the problem of physical reality." He then shows that the criterion stated above contains an essential ambiguity when applied to actual atomic problems. Bohr maintains that "the quantum mechanical description of physical phenomona seems to fulfill within its scope all rational demands of completeness." A more detailed discussion of the whole problem is given by E. Schoedinger in an article entitled "Die gegenwartige Situation in der Quantenmechanik" *Naturwissenschaften* 23:807.

DEUTERIUM

A comprehensive monograph on the Hydrogen Isotope of Mass Two by H. C. Urey and G. K. Teal was published in *Rev. Mod. Physics* 7:34.

Breckweddie, Scott and Taylor (*Jour. Chem. Phys.* 3:653) have determined the difference in vapor pressures of ortho and para deuterium from 15° to 20.4° K. The change with time of the vapor pressure of liquid normal deuterium was also measured. This change was found to be less than one mm Hg in 200 hours while for liquid normal hydrogen the change is one mm in four hours. This large difference is attributed to the difference in the magnetic moments of the proton and deuteron.

New determinations of the thermal properties of condensed deuterium have been made by K. Clusius and E.

Bartholome' (*Zeit. für Phys. Chem.* B 30:237)

G. K. Teal and G. E. MacWood (*Jour. Chem. Phys.* 3: 760), in Urey's laboratory, have photographed the Raman spectra of H_2, HD and D_2 gases at three atmospheres pressure. The exciting source was the Hg 2537 line. Forty-two lines were analyzed and compared with the previously published results for H_2. The experimental frequencies for the three types of molecules are in satisfactory agreement with the theoretical calculations.

STRUCTURE OF MOLECULES

Studies of ultra-violet absorption, Raman and near infra red spectra of benzene-d_6 are reported by Wood, Price and Wood and Barnes and Brattain (*Jour. Chem. Phys.* 3: 439, 444 and 446.) The ionization potential of C_6H_6 is found to be 9.190 ± .005 volts and that of C_6D_6 is about 3 x 10^{-4} volts greater. The infra red transmission spectrum of C_6D_6 is in agreement with the assumed plane symmetrical molecule, the theory of which was given by Wilson (*Phys. Rev.* 45: 706). Kohlrausch's results for the vibration lines of C_6D_6 also conform with Wilson's theory. (*Zeit. f. Phys. Chem.* B: 3, 305)

Using the method of electron diffraction Brockway and Cross (*Jour. Chem. Phys.* 3: 828) show that in Ni $(CO)_4$ the four carbonyl groups form a tetrahedral arrangement about the nickel atom. By the same method, Maxwell Hendricks and Moseley (*Jour. Chem. Phys.* 3: 699) find the molecular structures of P_4 and As_4 to be regular tetrahedrons with atomic distances of 2.21 Å and 2.44 Å respectively.

Two important discussions of the application of quantum mechanics to the theory of valence and molecular structure have appeared. One, by J. H. Van Vleck and A. Sherman appeared in *The Review of Modern Physics* 7: 167 and the other is in the series of articles, not yet completed, by R. S. Mulliken in the *Journal of Chemical Physics.*

PUBLICATIONS

In the opinion of the writer, the following publications of the year are worthy of special notice: *International Tables for the Determination of Crystal Structures.* Vol. I and II. Gebrueder Borntraeger. These tables were prepared by an international committee of *x*-ray crystallographers. *Molekülspektren und ihre Anwendung auf Chemische Probleme. Band I. Tabellen*, by H. Spooner and J. Springer, Important tables of constants of diatomic and polyatomic molecules. *The Theory of Atomic Spectra* by E. U. Condon and G. H. Shortley. Cambridge University Press. *X-rays in Theory and Experiment,* by A. H. Compton and S. K. Allison. Van Nostrand. *Orthohydrogen, Parahydrogen and Heavy Hydrogen,* by A. Farkas. Cambridge University Press. *The Optical Basis of the Theory of Valency,* by R. de L. Kronig. Cambridge University Press.

NOBEL PRIZE AWARDS

The Nobel prize for Physics was awarded to James Chadwick for his important discovery of the neutron. For Chemistry, the prize was given to Mme. Irene Curie-Joliot and her husband Frederick Joliot of Paris for their discovery of artificial radioactivity.

ORGANIC AND INORGANIC CHEMISTRY

BY CHARLES D. HURD

PROFESSOR, NORTHWESTERN UNIVERSITY

OPTICALLY ACTIVE ALLENES

Half a century is a long time to wait for verification of a correct prediction in chemistry but such was the case in confirming van't Hoff's 58-year old prediction that certain allenes, the class of compounds containing a pair of adjacent double bonds, should exist in stereoisomeric modifications. Thus, on the basis of the tetrahedral carbon atom, van't Hoff predicted that the allenes $\substack{x\\y}>C=C=C<\substack{x\\y}$ and $\substack{x\\y}>C=C=C<\substack{y\\x}$ should be stereoisomeric, not identical.

In years past, many attempts have been made to secure evidence on this point, only to have an apparently insurmountable obstacle appear at some step of the procedure. In 1910, Lapworth and Wechsler nearly achieved the desired goal for they synthesized an allene-acid of the required type, $\substack{C_6H_5\\C_{10}H_7}>C=C=C<\substack{C_6H_5\\COOH}$ (or, simply, RCOOH). Attempts to resolve this acid into stereoisomers by the customary methods (conversion to a salt with an alkaloid, as strychnine or brucine) was fruitless for the salts would not crystallize.

This year, Kohler solved the problem by attacking where Lapworth left off. He reasoned that if the acidic group (COOH) in Lapworth's formula were at a greater distance from the allene configuration that its salt-forming ability with brucine would be enhanced. Accordingly, he converted Lapworth's acid to the acid chloride (RCOOH to RCOCl) and reacted the latter with glycolic acid ($HOCH_2$-COOH) so that the resulting compound was a glycolic acid ester of the allene-acid ($RCOOCH_2COOH$). This new allene was readily resolvable into stereoisomeric modifications, thereby demonstrating the fundamental soundness of van't Hoff's prediction.

GASOLINE BY POLYMERIZATION

When kerosene lamps were in vogue, before the day of the automobile, the problem of the petroleum refiner was how to increase the kerosene output at the expense of the gasoline. With the disappearance of lamps and the advent of automobiles this situation became reversed. The supply of "straight run" gasoline became less and less adequate until finally the "cracking process" came to the rescue. As is well known the mineral oils, which are represented as large hydrocarbon molecules, may become broken down into smaller, more volatile hydrocarbons by high temperature methods of "cracking" or pyrolysis. To illustrate, an oil which is too non-volatile for motor fuel might contain 18 carbon atoms per molecule. On cracking, it might break into two smaller molecules of 9 carbon atoms each. This smaller hydrocarbon would be satisfactory gasoline. It would be satisfactory also if the C_{18} broke into $C_{10} + C_8$ units or even three C_6 units, but the trouble is that much of the pyrolysis gives rise to still smaller units which are gaseous and hence just as unfit for purposes of gasoline as the original oil. Various uses for this hydrocarbon gas have been devised but to a large extent it has been used merely as fuel for the refinery furnaces.

It has been recognized for years that a major problem was that of recombining the smaller, gaseous hydrocarbon units into gasoline. Thus, if two C_4 units (butylene) could be welded together, a C_8 molecule (octylene) would result. Similarly, three C_3 units (propylene) could be visualized as the precursor of a nonylene (C_9H_{18}). This process is known as polymerization.

Although polymerization of olefins is not new, the industrial application of it is. In one process, installed this past year, yields of 3.3 to 10.9 gallons of gasoline were realized per 1,000 cubic feet of cracked gases which contained 18 to 69 per cent of propylene and butylene. A commercial plant is in operation which is producing gasoline at the rate of more than 5 gallons per 1,000 cu. ft. of cracked gas.

Ipatieff and Corson have been particularly active in this development. They found that ordinary phosphoric acid was very effective in bringing about the polymerization. Phosphoric esters, the addition products of the acid and olefin, were formed first; *e.g.*, isopropylphosphoric acid, $H_2PO_4C_3H_7$, from propylene. At the temperature of the reaction involved (100-200° C.), two such molecules are considered to interact, regenerating the phosporic acid ($2H_3PO_4$) and forming one molecule of hexylene, C_6H_{12}. Obviously, by a continuation of the same mechanism, the C_6H_{12} may build up further to C_9H_{18} or $C_{12}H_{24}$.

One feature about the polymer gasoline is its high anti-knock rating. Such is the case because the carbon skeletons of the hydrocarbons produced by this process are necessarily branched-chain rather than straight-chain. Although the polymerization process is in its infancy in the petroleum industry, it bids fair to rise rapidly to a position of importance.

THE MALE SEX HORMONE

In 1934, during the course of certain experiments on male urine, Butenandt isolated two substances, namely, androsterone, $C_{19}H_{30}O_2$, and dehydroandrosterone, $C_{19}H_{28}O_2$. Interest in this work was greatly stimulated this past year by Ruzicka's synthesis of androsterone from cholesterol. The steps required two catalytic reductions and an oxidation. Since then, Marker has accomplished the same synthesis more simply. By the usual tests on capons and castrated rats, it was demonstrated that androsterone is very closely related to the male sex hormone. The hormone itself is believed by Ruzicka to be either androstenedione or androstenonol.

A convenient synthesis of dehydroandrosterone has been supplied by Wallis and Fernholz. This they accomplished by blocking the double bond and the alcohol group in cholesterol against oxidation, as cholesteryl acetate dibromide. The latter was then oxidized by chromic acid, debrominated by zinc dust to restore the double bond, and hydrolyzed to restore the alcohol group.

Luteal hormone or ''progestin'', from corpus luteum, is the active principle responsible for the progestational modifications of the uterus. This hormone was isolated in crystalline form through the painstaking work of Allen, Wintersteiner and Corner. In recognition of this meritorious achievement, W. M. Allen was selected as the first recipient of the Eli Lilly and Company award in biological chemistry.

Sex hormones, both male and female, and the luteal hormone all possess a structural skeleton which is very closely related to the sterols (cholesterol, ergosterol, Vitamin D, etc.), the bile acids (cholic acid, desoxycholic acid, etc.), toad poisons (bufotalin, etc.), opium alkaloids (morphine, codeine), cancer-producing hydrocarbons (1,2-benzpyrene; 5,6-cyclopenteno-1,2-dibenzanthracene, etc.), and the digitalis group of heart stimulants (stropanthidin, digitoxigenin, etc.). All of these substances possess the cyclopentenophenanthrene skeleton; *i.e.*, a skeleton containing fused phenanthrene and cyclopentene rings. Small wonder, therefore, that many workers are studying problems on these several types. In addition to those mentioned above, the group includes Jacobs, Fieser, Cook, Bachmann, Doisy, Koch, Small and many others.

VITAMIN B_1

Recent years have seen repeated successful attacks made on the structure of the various vitamins. Vitamin A, present in fish liver oils, is an unsaturated alcohol whose carbon skeleton is composed of four isoprene units. (Isoprene is more familiarly thought of as the building unit of rubber. On standing, isoprene polymerizes to rubber.) Vitamin B_2 is the least well known of the vitamins, but recent work has established that flavin is one of its constituents. Also, evidence is accumulating concerning the possible connection of vitamin B_2 and pernicious anemia. Vitamin C, present in fruit juices, has been shown to be related to the sugars. This substance has been named ascorbic acid and has been synthesized. Vitamin D has been shown to be intimately related to the sterols. This substance, named calciferol, is formed by the irradiation of ergosterol with ultra-violet light.

Vitamin B_1, the antineuritic vitamin, has been studied extensively this past year by R. R. Williams, H. T. Clarke and coworkers. Windaus, in Europe, has been active in the same field. Rice polishings are a rich source of this vitamin, but its rarity is evident when it is realized that only about 20 grams is present per ton of the chaff. By the best process of extraction about 5 grams per ton is actually isolable.

This vitamin, isolated as a hydrochloride, is crystalline, and analysis reveals 12 carbon atoms in the molecule. On treatment with sodium sulfite and sulfurous acid, it is completely split into two parts, each containing six carbon atoms. One of these units was shown to contain a pyrimidine nucleus and the other a thiazole skeleton. The nitrogen of the latter was the point of attachment to the pyrimidine nucleus.

TRI(CHLOROETHYL)AMINE, A NEW VESICANT

Modern industrial organic chemistry has created several new products, one of which is triethanolamine, $(HOCH_2\text{-}CH_2)_3N$. In a study of the chlorination of this compound by phosphorus pentachloride, Ward isolated tri-(chloroethyl)amine, $(ClCH_2CH_2)_3N$. Its dominant property is its powerful vesicant action. Its behavior is very similar to that of ''mustard gas'', or di(chloroethyl) sulfide, $(ClCH_2CH_2)_2S$, to which it is structurally related. Curiously, (chloroethyl)amine, $ClCH_2\text{-}CH_2NH_2$, and di(chloroethyl)amine, $(ClCH_2CH_2)_2NH$, show no vesicant action.

THIOCYANATES AS CONTACT INSECTICIDES

The development of simple methods for the preparation of long-chain alcohols, mentioned below, has stimulated activity in their use in various fields. One of these is the field of insecticides and another is that of detergents. The thiocyanates, RSCN, of such alcohols have been found to be excellent contact insecticides. Lauryl thiocyanate (or lauryl rhodanate, as it is sometimes called) is particularly effective. The general plan of synthesis is simple. The alcohol, ROH, is converted to the chloride, RCl, which is then heated with sodium thiocyanate: $RCl + NaSCN \rightarrow RSCN + NaCl$.

According to Bousquet, Salzberg and Dietz, the effectiveness towards aphids or thrips reaches a maximum if R in RSCN represents a radical containing 8 to 14 carbon atoms. Natural glycerides such as coconut oil may be hydrogenated to furnish these alcohols, but alcohols of similar size from other economical sources may be equally effective. In this connection ''butylcarbitol'', $C_4H_9OCH_2CH_2OCH_2CH_2OH$, suggests itself for it is one of the newer alcohols produced in the ethylene industry.

THE NEW DETERGENTS

The last two years have witnessed a remarkable development among detergents. Householders who have used ''Dreft'' may have thought they were using ''just another soap powder'' but this substance is considerably different from the ordinary soaps. A similar detergent is distributed to the textile trade under the name of ''gardinol''.

The ordinary soaps may be regarded as sodium (or potassium) salts of carboxylic acids, RCOONa, the chief prerequisite being the large size of the group R. Thus, sodium stearate, a common soap, is $C_{17}H_{35}COONa$. As is well known, the common soaps give an alkaline reaction in water and they yield objectionable, slimy curds of calcium or magnesium soaps in hard water.

Dreft is essentially sodium lauryl sulfate, $C_{12}H_{25}OSO_3Na$, mixed with sodium sulfate as diluent. In contrast to soaps, which are sodium salts of weak acids, sodium lauryl sulfate is the salt of a strong acid. Hence its solution in water is neutral. In shampooing, for example, it does not irritate the eyes. More important is the fact that it may be used in hard water as effectively as in distilled water, since the calcium or magnesium salts are soluble also and therefore do not separate. This is of obvious benefit in the laundering of fine fabrics, or in shampooing, or in other cases where it is desirable to rinse off the suds without the formation of sticky curds. Also, in the textile industry the sodium alkyl sulfates are very effective as wetting agents to facilitate dyeing, especially towards those dyes which must be used in acid solution. Ordinary soap is valueless in such operations because of the precipitation which would necessarily ensue.

The production of sodium lauryl sulfate involves the production of lauryl alcohol from coconut oil or palm kernel oil by hydrogenation. The lauryl alcohol is then treated with sulfuric acid, and the lauryl hydrogen sulfate which is produced is neutralized with alkali.

NITRATION OF SIMPLE HYDROCARBONS

The simple hydrocarbons are named paraffins because of their inertness. They may be broken down by heat or by combustion, but their only controllable reactions have been chlorination and bromination. Researches conducted by Hass have added another such reaction and it promises to be one of great importance, namely, the reaction (at 400° C) between paraffins and nitric acid. Nitroparaffins are formed. Methane does not react, but ethane gives rise to both nitromethane and nitroethane. Propane, treated similarly, yields nitromethane, nitroethane and both of the nitropropanes. Until now, these nitroparaffins have been chemical curiosities. The fact that they may be made in a simple manner from ethane, propane and butane is peculiarly significant because of our vast reserves of natural gas. Uses for these nitroparaffins are being sought in the solvent field. Also, their ability to be changed by simple means into organic acids and hydroxylamine makes this development one of great interest.

BORON TRIFLUORIDE IN ORGANIC REACTIONS

The pronounced activity of boron trifluoride in initiating various organic reactions has been made the subject of several investigations by Nieuwland. For example, acetic acid, which normally would be inert towards acetylenes, is caused by the reagent to add and form vinyl esters: $CH_3COOH + RC{\equiv}CH \rightarrow CH_3COOCR{=}CH_2$. In a similar manner, phenols can be made to add themselves to olefins, a case in point being the preparation of phenyl isopropyl ether from phenol and propylene. Without the boron trifluoride no reaction would have occurred. On continued reaction, several propylene molecules may be added until triisopropylphenyl isopropyl ether is formed. Even benzene may be made to add to propylene if a mixture of boron trifluoride and sulfuric acid is taken as catalyst. In this case, the product formed is 1,4-diisopropylbenzene.

Although a complete picture of the catalytic behavior of the boron trifluoride is lacking, it is thought that the boron functions by distorting the four electrons of the double bond (in propylene, for example) from a stable to an unstable state. The distorting influence is the comparative lack of electrons on the boron atom.

In recognition of Dr. Nieuwland's fundamental contributions to the chemistry of acetylenes, he was this year awarded the Nichols medal of the New York section of the American Chemical Society.

ORGANIC COMPOUNDS OF BORON

Schlesinger has studied the methyl derivatives of diborane, a hydride of boron, in order to obtain evidence concerning the electrons which bond the atoms in the compound together. Diborane, B_2H_6, resembles ethane, C_2H_6, in molecular size and in the fact that both are gases. However, they differ in the fundamental respect that diborane contains but 12 valence electrons whereas ethane contains 14. A pair of electrons is the equivalent of the conventional bond. Thus, the two carbons in ethane are held by two electrons (a "bond") and the remaining 12 electrons suffice to bind the six hydrogens to the carbons. If two electrons hold the borons together in diborane, then only 10 are left for the six hydrogens. Four of the six might be held by electron pairs, but the remaining two must be attached by single electrons.

Reasoning on this line caused Schlesinger to question whether all six hydrogens in diborane could be substituted by methyl groups or whether substitution would cease at four. Actually, he was able to isolate mono-, di-, tri- and tetramethyldiborane, $B_2H_2(CH_3)_4$, but he was unable to substitute further. Trimethylboron served as the methylating agent: $B_2H_6 + 4B(CH_3)_3 \rightarrow 3B_2H_2(CH_3)_4$. The di-, tri-, and tetramethyl compounds were liquids boiling, respectively, at —3°, 46° and 69° C. These compounds react with water with the evolution of hydrogen and with the formation of methylboric acids: $B_2H_2(CH_3)_4 + 2H_2O \rightarrow 2H_2 + 2(CH_3)_2BOH$.

SELENIUM DIOXIDE IN OXIDATIONS

The past three years have witnessed the rise of an unique oxidizing agent, namely, selenium dioxide. It is effective towards ketones, diketones, keto esters, olefins, acetylenes and others. The substances are able to be oxidized also by other oxidizing agents (such as permanganate, etc.) but the difference in the mode of oxidation is striking. Ketones, for example, usually break down to acids on oxidation, a process which involves rupture of the carbon skeleton. Similarly, most oxidizing agents attack olefins or acetylenes at the position of unsaturation, with eventful rupture of the carbon chain.

With selenium dioxide, no rupture of the carbon chain occurs. As a matter of fact, the attack is not even at the position of unsaturation. Oxidation occurs at the neighboring atom. Representative transformations by this method include acetone to pyruvic acid, propylene to pyruvic acid, cyclohexanone to 1,2-cyclohexanedione, camphor (a ketone) to the related α-diketone, heptyne to 3-hydroxy-1-heptyne, and α-quinaldine to α-formylquinoline.

The synthesis of ninhydrin from 1,3-diketohydrindene was accomplished smoothly by selective oxidation with selenium dioxide. Ninhydrin is the reagent which is so valuable for the detection of uncombined amino and carboxyl groups in proteins, peptides and amino acids and in the diagnosis of pregnancy. Previously, its preparation was much more laborious and expensive.

ARGENTIC SILVER

A. A. Noyes and collaborators have studied the oxidation states of silver salts. They found that if ozone is conducted through a solution of ordinary silver nitrate, $AgNO_3$, in nitric acid, a slow oxidation occurs yielding an argentic nitrate, $Ag(NO_3)_2$, which is black and soluble. That the opaque silver solution contained bivalent silver was demonstrated in a variety of ways.

The power of the argentic ion as an oxidizing agent has been revealed by its instantaneous conversion of hydrogen peroxide to oxygen, manganous salts to permanganate, chromic salts to chromate, and others. The marked catalytic effects which ordinary silver salts exert on oxidations have been shown to arise from intermediate formation of the more reactive argentic salt. Illustrative of the latter is the catalytic effect of silver in the oxidation of manganous salts and chromic salts by lead dioxide and bismuth dioxide.

GERMANIUM AND GALLIUM

Johnson, Foster and Kraus, in studying the mineral germanite, have succeeded in developing methods for extracting germanium and gallium from it. Germanite is a sulfide ore containing 5% of germanium and 0.5% of gallium. It is first freed of its arsenic content at 800° C., then reduced at 825° by ammonia. In this process, germanous sulfide distils. The gallium in the residue is extracted with hot hydrochloric acid.

PROTACTINIUM, ELEMENT 91

The radioactive element protactinium was discovered in 1917. Ten years later Grosse took up the problem of concentrating this element and preparing some of its compounds. This past year, Grosse succeeded in isolating protactinium itself.

Radium residues are the starting point, the residues consisting chiefly of oxides of silicon, iron and lead. They are extracted with hydrochloric acid. Then the residual silica, which contains the protactinium, is melted with sodium hydroxide. The protactinium, present in the basic oxides after the melt is leached, is next separated with zirconium phosphate. From an original concentration of one part in three millions these steps bring the concentration to one part in five thousand.

From this stage, further concentration is by a series of fractional crystallizations of zirconium oxychloride and phosphate precipitations. At a concentration of about ten per cent by weight of protactinium most of the zirconium is separated by sublimation of the chlorides. Protactinium oxide, Pa_2O_5, is then precipitated directly by means of hydrogen peroxide. The quantity of pure oxide obtained was 0.1 gram.

Two methods were used to reduce this to the metal itself. In one, the oxide was bombarded with a stream of electrons in a high vacuum. In the other, the oxide was changed to the iodide which was pyrolyzed *in vacuo* on an electrically heated tungsten filament: $2PaI_5 \rightarrow 2Pa + 5I_2$. Protactinium, thus formed, was found to be a shiny, gray-white metal. In contrast to metallic radium, this metal does not oxidize in the air.

ELECTROCHEMISTRY

By Colin G. Fink

Professor, Columbia University

THE ELECTRIC FURNACE AND ITS PRODUCTS

In the electric furnace field, an outstanding improvement of the arc type furnace is the top charge furnace developed by the Lectromelt Furnace Corporation of Pittsburgh. The year 1935 marks increased activity and popularity of electric heating and melting by induction, rather than by the arc, not only in the United States but all over the world. In the field of abrasives produced in the electric furnace, new hardness data of immediate practical value were published on silicon carbide, boron carbide, tungsten carbide, and tantalum carbide. Of these, boron carbide is the hardest. A notable achievement in electric furnace application is that of R. E. Gould, who succeeded in turning out perfectly fired ceramic ware in an electric kiln operated at 1450° C. Carborundum resistor units are used as heat source. This promises to be the beginning of a ''new and brighter era'' in ceramic firing. The many objections inherent in gas firing are eliminated.

THE ELECTRIC ARC

An outstanding contribution to electrochemistry is that of Chaney, Hamister, and Glass of the National Carbon Company. Through most careful and painstaking tests, they studied the behavior of the carbon arc at extremely high temperatures. They found that carbon sublimes without melting at ordinary atmospheric pressure; that the maximum brightness of the carbon crator is 3810°K. (6400°Fahrenheit). The probable true crater temperature is 6650°F. Even so, these temperatures are ''low'', compared with those reported by T. E. Sterne, of Harvard: The outside of the sun registers 11,000°F., and the temperature inside the sun is probably over 1,000,000°F.

FUSED ELECTROLYTES

Dr. J. W. Marden, of the Westinghouse Company, described the production of thorium and uranium metals. Thorium metal has proved to be particularly useful in glow discharge tubes. Both metals have been used in *x*-ray tubes and under certain conditions, may come to be of considerable commercial importance. Calcium metal has entered upon a new stage of its commercial life. It is used in large quantities for the recovery of bismuth from crude lead by the so-called Betterton process. A small percentage of calcium increases the life of lead cable sheathing. Other uses include the degasification of copper and its alloys; the purification of cast iron and steel. The most recent application is that discovered by the Bell Telephone Laboratories: Lead-calcium alloy for storage battery plates was found far superior to the present lead-antimony alloy. The lead-calcium storage batteries retain their charge for far longer periods and are more efficient.

In the aluminum industry, 1935 records the entrance of Fink's ''Alplate'' into industry. The aluminum coating is rigidly bonded to the steel or other metal and the product is not only rust-proof but also fire-proof. It combines all of the valuable mechanical properties of steel with the high corrosion resistance and attractive appearance of aluminum. The product is to be used in building construction, railway equipment, airplane and automobile parts, etc. The surface is easily dyed or colored.

Another important new application of aluminum is in the shape of foil as a heat insulator. Many layers of thin aluminum foil are placed between the inner and outer casing or wall of a wide variety of appliances. Finally, the general application of aluminum mirrors in place of silver mirrors is rapidly gaining. The new astronomical mirrors are all being made of aluminum, in place of silver.

In the production of magnesium, a new process is being tried out, comprising the direct interaction of carbon and magnesium oxide at elevated temperatures.

BATTERIES AND DRY CELLS

At the Washington Convention of the Electrochemical Society, two long sessions were devoted to the battery industry. Among the more important improvements reported are the calcium-lead battery plates for the storage battery as developed by the Bell Telephone Laboratories; a new high amperage caustic soda primary battery emanating from the Waterbury Battery Company, and the new low discharge lead storage batteries of the Willard Storage Battery Company.

ELECTROPLATING

The most important development in the plating field was the introduction of strip metal, notably steel, thousands of feet long, which is cleaned, plated with one or more metals, heat treated, then stamped, drawn and spun into finished articles. Expensive individual handling is dispensed with, and the ultimate product is absolutely uniform in appearance and quality. The new year, 1936, will see rapid strides made in this new development, especially in the tin plate industry.

A. Kenneth Graham, of Philadelphia, advocates the use of aluminum and mercury salts in the zinc cyanide bath. The deposits are better in appearance and give splendid protection against corrosion to the basis metal such as steel. Fink and Young reported a new cyanide-free bath for the electrodeposition of an alloy of zinc and cadmium, which is more resistant to corrosion than deposits of either metal alone.

Numerous papers appeared on chromium plating. A new approach to the underlying theory was presented by Raymond R. Rogers, of Columbia. Flaxwood and Yntema developed a new silver plating bath composed of 60 grams per litre of citric acid and 520 grams per litre of sodium iodide. A fine-grained, adherent deposit is obtained. The bath is stable and throws well. Since iodine is available today at a much lower price than a few years ago, this silver iodide bath promises to become commercial. At all events, it has none of the poisonous properties of the old silver cyanide bath.

ORGANO-ELECTROCHEMISTRY

During recent years, there has been an ever increasing interest and development in organo-electrochemistry. Notable contributors to this field during 1935 were Professor Sherlock Swann and his students at the University of Illinois; Professor W. E. Bradt and associates at State College, Washington, and Professor R. H. McKee and his staff at Columbia University. Swann reported on the electro-reduction of acetophenone, propyl ketone, and other ketones. Bradt reported on the oxidation of toluene, McKee, on the reduction of nitro compounds in concentrated aqueous salt solutions. Joseph E. Jewett reduces nitrobenzene electrolytically by passing the cathode liquor in a stream through the space formed between the cathode and diaphragm to keep the surface of the cathode and diaphragm free from incrustations. R. J. Cross has developed a process of separating glutamic acid from other amino acids by employing the principle of electro-osmosis.

GASES

Electrolytic chlorine has found a very important new application. By so-called displacement reaction, chlorine is pumped into sea water and bromine gas is liberated. Bromine is the essential reagent in the production of tetraethyl lead used in antiknock gasolines. At Kure Beach, North Carolina, 20,000,000 pounds of bromine are daily recovered from the sea. A competitor of electrolytic chlorine is chlorine made by the interaction of common salt, NaCl, with nitric acid. The Allied Chemical and Dye Company is particularly interested in this source of chlorine.

New electrolytic cells have been devised for the large-scale production of fluorine gas, an important though relatively new reagent in organic chemical reactions.

In the tungsten lamp industry, a newcomer is a lamp filled with either Krypton or Xenon gas, resulting in a marked improvement in light efficiency, as compared with nitrogen-filled or argon-filled tungsten lamps.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN CHEMICAL SOCIETY, 728 Mills Bldg., Washington, D. C.

AMERICAN ELECTROCHEMICAL SOCIETY, Broadway and 117th Street, New York City.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Bellevue Court Building, Philadelphia, Pa.

AMERICAN INSTITUTE OF PHYSICS, 11 E. 38th St., New York City.

AMERICAN MICROSCOPICAL SOCIETY, University of Illinois, Urbana, Ill.

AMERICAN PHYSICAL SOCIETY, Columbia University, New York City.

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, University of Michigan, Ann Arbor, Mich.

ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS, Box 290, Penn. Ave. Station, Washington, D. C.

COPPER AND BRASS RESEARCH ASSN., 25 Broadway, New York City.

NATIONAL RESEARCH COUNCIL, 29 W. 39th St., New York City.

SOCIETY OF CHEMICAL INDUSTRY, Pratt Institute, Brooklyn, N. Y.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSN., 260 W. Broadway, New York City.

DIVISION XXII

BIOLOGY

ORGANIC EVOLUTION AND GENETICS

By Myron Gordon

Zoological Laboratory, Cornell University

GENERAL

Is organic evolution being studied actively today? Dr. G. G. Scott of the College of the City of New York and his students have tried to determine the answer to this question. By study of the summaries of researches in biology that appear in *Biological Abstracts* they believe it is possible to determine fairly well the degree of research activity in various divisions of biology. In *Science* (81:252-253, 1935) under the title of "Distribution of Papers in Biological Sciences for the Past Eight Years" they list the activity of research in evolution as compared with 21 other branches of biologic research. One of the surprising finds is that the study of evolution, as determined in this manner, is next to the last in degree of activity. Scott asks: "Is it not a fair conclusion to state that although biologists do not regard the evolution problem as solved yet they evidently are not much interested in it?" No data are presented on the relative frequency of papers on evolution in previous periods.

From the number and type of papers presented in 1935 it must be said that the subject of evolution is still a lively subject. Many biologists actively interested in evolution and working on problems of significance in evolution do not stress the evolutionary implications of their results. Evolution is not rightly one subject but the sum total of all biologic studies.

One of the most active hook-ups between the study of evolution and a division of biological study is that found between evolution and genetics. Geneticists employ the experimental and mathematical methods of attack. Genetics is only one avenue of approach to this problem. It is an effective one. Researches along these lines during 1935 have been numerous. Only a small part of the total work done in evolution, and done in the United States, is reviewed here.

Some idea of what the geneticists and naturalists of America as a group are actively interested in and what they are actively pursuing in their experimental work may best be gained by mentioning some of the topics which have been selected for their group discussions and symposia.

CYTOGENETIC EVOLUTIONARY PROCESSES

At the Pittsburgh meeting of the American Society of Naturalists held towards the close of 1934, the following topic was chosen: "Cytogenetic Evolutionary Processes and Their Bearing on Evolutionary Theory". From preliminary reports published in *Science* (81:123, 1935) the following report is obtained. Dr. R. A. Brink of the University of Wisconsin, speaking on the botanical phases of the problem, showed how amphidiploidy, changes in chromosome number not involving the whole genom and structural changes of the chromosomes, were capable of causing evolutionary changes in plants. Dr. M. Demerec of the Carnegie Institute of Washington, Cold Spring Harbor, N. Y. spoke on the "Role of Genes in Evolution". This is reviewed more fully at a later point in this outline of progress for the year 1935. The third paper, by Dr. C. L. Felton on "Factors of Evolution in Fossil Series" described paleontological discoveries, particularly involving brachiopod series of fossils and interpreted them in terms of modern genetics. Stability of the genotype, evolutionary change with relaxation of natural selection pressure, polyploidy and even gene mutation of shell ornament and physiology were suggestively illustrated with fossil series.

At this time, too, Dr. A. Franklin Shull of the University of Michigan presented a critique of evolutionary concepts under the title of "Weismann and Haeckel; One Hundred Years". Using modern genetic concepts as a base Dr. Shull subjected old and new hypotheses of evolutionary changes to scrutiny. An extended review of this paper may be found in the coming paragraphs.

DISCUSSIONS OF GENETICS MEETINGS

Genetics and Ontogeny.—At the summer meeting of the Genetics Society of America held at Woods Hole, Massachusetts during 1935 a round table conference was devoted to the discussion of the problem: "How far genetics can explain ontogeny". The general problem of development of the organism was discussed both from the botanic and zoologic standpoint. The importance of genes was stressed; it was pointed out that genes appear to have an action similar to that of enzymes; methods to connect genetic research with the study of ontogeny were outlined; the responsibility of genes and of genic environment for the expression of various characteristics were evaluated and the importance of transplants for genetic studies of ontogeny were indicated.

Chromosomes in Relation to Genes.—Another period was spent in discussing "Chromosomes and their relation to genes". This concerned the problem of what is responsible for the size and shape of chromosomes, the time action of the genes, origin of new loci, staining technique, and lethal and non-lethal deficiencies.

Species Problem.—At the winter meetings of the Genetics Society of America at Princeton, N. J., just held, the following papers were listed under the general problem of "Species Problem": W. H. Longley, Goucher College, "Species Studies and Species Problem"; A. G. Redfield, Harvard University, "The Distribution of Physiological and Chemical Peculiarities in the Natural Groups of Organisms"; C. Stern, University of Rochester, "Interspecific Sterility": E. M. East, Harvard University, "Genetic Aspects of Certain Problems". At St. Louis the subject of the symposium was, "Species from a Genetic Standpoint". John C. Merriam of the Carnegie Institution of Washington presented the presidential address before the American Society of Naturalists on "The Extent and Rate of Human Evolution". These discussions will doubtless appear in publication form during 1936, and reviews may then be made.

THE THEORY OF NATURAL SELECTION

T. H. Morgan reviews the "Modern Views of the Evolution Theory" in the *American Scholar* (5: 14-22, 1935). Morgan contrasts the evidence which Darwin utilized to support his (Darwin's) theory of natural selection with the evidence to which the modern exponents of evolution, the mutationists, appeal in support of the geneticists' theory of natural selection.

The theory of natural selection "affirms that amongst the different kinds of individuals that are present in all species of animals and plants, those best adapted to the old or to the new, or to a changing environment, will have the best chance of survival''. Natural selection is entirely ineffective unless variations appear from time to time that transcend the original limits of variability among organisms.

Since Darwin's time biologists have examined more critically the evidence to which he appealed. Darwin pointed to the individual differences that everyone can see for himself. He assumed that these fluctuating differences are heritable, and that if selected they will move the species in the direction of selection; the implication being that in time selection will cause the difference to transcend the limits of original variability. This conclusion has been disproven. Darwin was mistaken as to the sources of the new types that make evolution possible.

Darwin rejected a possibility that has more recently been established as a fact. New transgressive types are now known to appear suddenly and to transmit their properties undiminished to some of their descendants. If, then, it could be shown that some of these types, which are called 'mutants', are as good as or better adapted types than the old ones they would furnish the kind of progressive changes that lead to evolution. Therefore if mutations (of modern genetics) are substituted for fluctuating differences (Darwin's) the argument for natural selection may appear to stand on a substantial ground.

Natural selection has had nothing to do with the origin of new and variable types. If expressed as an agent in the outcome it would only account for the destruction of the unfit and the survival of the types capable of adaptation to the conditions at hand. Natural selection cannot be regarded as purposefully guided evolution.

The mutationist's interpretation rests on the demonstrated fortuitous appearance of entirely new characters that are inherited in specific ratios. And since they are not swamped by outcrossing, as Darwin supposed to happen in the case of individual variation, the theory of natural selection has taken a new lease of life.

Russell W. Cumbey of the University of Texas presents a lucid and simply told history of genetic thought in *School Science and Mathematics* (35: 943-954) under the title of: ''The Story of the Gene''. This history covers a long period, from Anaximandes, 611-547 B.C., to Morgan, 1935.

EVOLUTIONARY THOUGHT AND THEORY

In the presidential address delivered before the American Society of Naturalists at Pittsburgh, Dec. 29, 1934, A. F. Shull of the University of Michigan (*Science* 81: 443-452, 1935, ''Weismann and Haeckel'') traces the advances in evolutionary thought and theory since the time of Weismann and Haeckel. Haeckel, according to this review, was tracing pedigrees and was not greatly concerned with causes. Weismann, firmly convinced of the correctness of the selection doctrine, was applying that principle to a wide range of animal characteristics. The following problems were lively topics to these men: protective coloration, sexual selection, warning color patterns, mimicry and recognition patterns.

Modern theories of evolution follow genetic phenomena. As Shull states: ''We recognize that evolution consists of changes in the nature and arrangement of genetic units. . . . The genes may change and change again and return to their former states. Since evolution deals with populations, migration into and out of any group may change its composition. Relative proportions of alternative genes in collections of individuals determine the nature of the population, and these proportions are modified by accidents of recombinations, accidents of survival, changes in the genes, and the accidental wanderings of individuals. If any gene or combination of genes confers an advantage that is expressed in increased relative number of descendants—and no other advantage is an advantage in evolution—that gene or combination gains over its alternates.''

Using the above fundamental features of the evolution mechanism, Wright, Fisher and Haldane have formulated the expected consequences of each factor under various suppositions. They have postulated mutation rates, including reverse mutations, migration rates, selective advantages, and various population sizes and out of them have pictured the evolution process in the abstract.

Another body of data which is being reviewed by present day evolutionists is that concerning useless or non-adaptive characters such as chiefly distinguish different closely related species. Shull says: ''It is these useless characters which constitute one of the puzzles of evolution. They are a particularly heavy load upon the natural selection doctrine. So numerous are the apparently useless characters of organisms and the ostensibly non-adaptive changes in them that most evolutionists have felt obliged, at one time or another, to postulate other factors besides natural selection to account for them. Could such a factor be discovered and be proved general, most of the outstanding problems of evolution would be started on the way to solution.''

Shull advances the suggestion of the importance of isolation of species from one another. Geographical isolation may not be the chief factor but isolation due to genic changes in a population which prevent fertile interbreeding may be the factor. Subsequent geographic isolation may take place. The variety of changes bringing about interspecific sterility may be due to mutation. Certain types of chromosomal aberration may be involved too.

Towards the end of the speech Shull states: ''While I am quite unwilling to share with Osburn, Barbour and some others the view that we are still ignorant of the factors of evolution as biologists were a generation ago—a few biologists may still be—I am quite certain that a moderately full knowledge of them is still far beyond. Even were the only outstanding difficulty the existence of non-adaptive qualities of organisms we should be still far from finality; but this I regard as the heaviest task before us''.

PROTECTIVE COLORATION IN ANIMALS

Francis B. Sumner of the Scripps Institute of Oceanography at La Jolla, California, writing in the *American Naturalist* (69: 245-266, 1935) has returned to the problem, quite lively 50 years ago, of protective coloration in animals. He goes into the historic background of the subject and makes the point that the problems involved were treated speculatively rather than experimentally. Further, the problems previously studied experimentally concerned animals of a fixed color scheme. In the work to be reviewed briefly, Sumner devotes his efforts to protective value of changable coloration. In his paper, ''Evidence for the Protective Value of Changeable Coloration in Fishes'', Sumner describes his experiments with fishes, *Gambusia patruelis,* and their predator, a Galapagos penguin, *Spheniscus mendiculus.* By placing the fishes in a tank painted white, they would, after a lapse of several weeks, actually lose an appreciable amount of black pigment. When placed in a tank painted black these white conditioned fish are outstandingly more conspicuous than those fishes which were conditioned for the same length of time in black tanks. White conditioned fishes immediately become slightly darker when placed in black tanks due to a color change mechanism which involves the dispersion of black pigment granules in their melanophores or black pigment bearing color cells. But the white conditioned fishes could not reach the degree of blackness attained by the black conditioned fishes for several weeks. Under these conditions white conditioned fishes when placed with black conditioned fishes in black tanks are decidedly more conspicuous to the eye and apparently more conspicuous to the eye of the Galapagos penguin for this bird caught more of the white conditioned ones when there were just as many black conditioned fishes available to it. The experiments were confirmed by placing ''white'' and ''black'' fishes in white painted tanks. More ''black'' fishes were taken this time. Sumner concludes that the chromic adjustment of fishes to their backgrounds may be of vital importance in protecting them from predators, despite the circumstantial evidence and theoretical objections which have been offered in disproof of this conclusion.

THE ROLE OF GENES IN EVOLUTION

In a paper presented at a symposium on the Cytogenetic Evolutionary Process and their Bearing on Evolutionary Theory, Dr. M. Demerec of the Carnegie Institute of Washington, Cold Spring Harbor, L. I., N. Y., spoke before the American Society of Naturalists at Pittsburgh, Dec. 29, 1934, on the Role of Genes in Evolution (*American Naturalist*, 69: 125-138, 1935).

As a working hypothesis of the nature of the gene, Dr. Demerec says: ''A gene is a minute organic particle, probably a single large molecule, possessing the power of reproduction, which power is one of the main characteristics of living matter. Changes in genes (mutations) are visualized as changes or rearrangements within molecular groups of a gene molecule. It looks as if a gene can stand slight changes only; a more extensive change destroys its reproductive powers and automatically eliminates the gene. A whole complement of genes of an organism constitute a balanced system which determines the appearance and the nature of that organism. A majority of genes of a gene complex probably function in every cell. If any one of them is missing the disturbance produced in the system is lethal to the whole organism and in many cases is even highly detrimental to individual cells''.

Gene changes as evolutionary factors in evolution are of three types, similar in nature, but differing from each other in the degree of their effect. First, there are lethal changes due probably to gene eliminations; all these changes are highly injurious to the organism; these cannot have any evolutionary significance. Second, there are visible changes due to chemical changes in genes which have a strong effect on the organism; these visible mutations because of their detrimental effect do not offer an effective mechanism for the evolutionary process except in circumstances where, due to a change in the environment, a particular mutation either loses its detrimental effect or becomes beneficient. The third type of gene change, namely, those having a slight effect on the organism, play a more important role in the evolutionary process. Such mutations may account for slight differences between various strains and if allowed to accumulate through some barrier which produces isolation these differences may become great enough to be classified as different species. At this point fertile hybrids are produced but sterility between them may arise if any of the loci becomes so differentiated that it does not resemble the original locus. The balance of the gene system may become different in the two strains due to changes in loci. Demerec refers to a case cited by Patterson to substantiate this factor.

Gene systems become adjusted to new loci arising within their system if the change is of slight physiological consequence. This change in, or additions to, loci would bring a degree of differentiation to some of the members of a group in which the change occurred. Sterility might also appear among the offspring of a differentiated and undifferentiated member of the group. This would be a step toward the formation of a new species. ''That the addition of loci is an important factor in the origin of new species is indicated by the fact that all new species formed experimentally up to the present originated through that process''.

ARTIFICIAL MUTATION

H. H. Plough and P. T. Ives discuss: ''Induction of Mutations by High Temperature in Drosophila'' in *Genetics* (20: 42-69, 1935). Geneticists have been searching for some agent in the natural environment of living things which produces mutations under controlled conditions, and is of sufficient general occurrence to account for mutations in nature.

Muller several years ago showed that exposure of the germ cells of living organisms to x-rays or to radium has so far proved to be the only reliable method for artificially inducing mutation. But Muller and Mott-Smith have concluded that natural radiation is inadequate as a course of spontaneous or natural mutations. Temperature as a factor in mutation cause has been suggested frequently. Temperature changes are ubiquitous and paleontologists have often suggested that periods of rapid evolutionary change coincide with; or followed, periods of marked climatic change.

These authors review the history of the study of temperature effects on organisms in the laboratory and present a critical analysis of the results heretofore obtained. They say that Goldschmidt in 1929 was the first to give clearcut evidence in support of the increase in mutation rate by use of abnormal temperatures. The authors state that their results show excellent agreement with those of others who claim that there is a significant increase in the rate of mutation. In addition they indicate certain genes are induced to mutate more frequently than others, although they find no evidence of step-by-step mutations in allelic series as held by some of the Russian geneticists.

Jollos is the exponent of the idea that high temperatures not only bring about a greater rate of mutation but these mutations occur in successive steps and if advantageous mutation, the end result would be a straight line or orthogenetic series especially attractive to the views held by paleontologists. Plough and Ives cannot agree that this is so. They rather hold to the more fundamental view that a general increase in mutation rate could increase the speed of evolution but mutation rate can have no directive influence whatever. They accept the view of Wright "that evolution depends upon a balance among its factors" among which are a certain rate of mutation, a moderate amount of selection, a certain ratio of inbreeding. Disturbance of this balance would not lead to more rapid evolution. Since frequent fluctuations in temperatures are normal in the environment of a species in Drosophila, it may reasonably be assumed that they constitute an important factor in maintaining a certain mutation rate in nature.

Warren P. Spencer of the College of Wooster, Ohio, writing in the *American Naturalist* (69: 223-238, 1935) on the Non-random Nature of Visible Mutations in Drosophila, believes that neither natural radiations of short wave-lengths nor temperature radiation can be considered the primary extrinsic causal factor in mutation. The cause or causes are probably environmental rather than innate permutation factors. Spencer suggests that internal and external causal factors often may co-exist. His evidence based upon observation upon 750,000 to 1,000,000 flies, Drosophila, of various species, indicating that the mutation role of several species and races of the same species varies concurrently in time, convinces him that some of the causes of mutation are to be looked for in factors outside the organism; "for," he continues, "it is then more likely that one causal factor in the environment might vary from time to time, possibly in a particular locality, than that inherent permutation factor should vary simultaneously in several races and species which may have come from widely separated sources geographically and genetically."

APPLICATION OF GENETIC METHODS TO EVOLUTION PROBLEMS

C. V. Green of the Roscoe B. Jackson Memorial Laboratory at Bar Harbor, Me., writing in the *American Naturalist* (69: 19-29, 1935) describes a close application of genetic methods to problems of evolution. In his introductory paragraph for "Gene Relationships in Two Species of Mice with Reference to Their Possible Evolutionary Significance" he states: "A study of the genetic constitution of two related species, when interfertile, is of interest from the standpoint of genetics since the inheritance of their specific characteristics can then be investigated. Such a study is likewise of interest from the standpoint of evolutionary origin of the species, furnishing, as it does, a rough measure of their distance from a common origin and information concerning the development of the wild type complex.

The results obtained in crossing *Mus batrianus,* the Chinese mouse, with strains of *Mus musculus,* our domestic mouse, carrying a number of recessive gene mutations, indicate that, in general, the wild type complex is similar in the two species. The basic genes investigated are, for the most part, probably the same, but with their expressions influenced by different modifiers. With certain dominant *musculus* gene mutations the situation differs somewhat. Although dominant over the wild type *batrianus* the expression in the hybrid is much lessened and in the direction of the normal condition found in both forms. The wild type complex found in a species is probably the balance result of an evolutionary process and, since recessives seem most frequently to represent inactuation of genes, for physiological reasons is similarly dominant over the recessive genes of other species. On the other hand, the expression of a dominant gene, which must bear such a relation to the wild type complex from which it originated that its expression is permitted away from normality, is as a result often reduced toward the normal condition when introduced into a second species with a somewhat different complex. The balance in mice was probably attained very early, and in consequence the ancestral species essentially stable before divergence into the closely related forms *Mus bactrianus* and *Mus musculus.*

PROBLEM OF SPECIES

In the first of a series of two papers on the fruit fly, Drosophila, Th. Dobzhansky of the California Institute of Technology, Pasadena, Calif., writes in *Genetics* (20:366-376, 1935) first on "The *Y* Chromosome of *Drosophila pseudoobscura*" and second on "*Drosophila miranda,* a New Species" (20: 376-391, 1935). In the first paper he classifies six types of *D. pseudoobscura* on the basis of length and method of attachment of the *Y* chromosome. Each of the six types occurs in the wild population inhabiting a definite geographic area. The morphological and physiological properties of a given strain are apparently not affected by the type of the *Y* chromosome present in that strain.

Dobzhansky reviews the literature dealing with racial differences and visible chromosomal correspondence. He generalizes as follows: The process of race and species formation may be resolved into at least two components: the genetic differentiation and the differentiation in the chromosome structure. The two components seem virtually independent, but the phenomena of position effects may lead to a recognition of an ultimate connection between the two. The differences between races and species may be in some cases predominantly genic, and in others predominantly chromosomal in nature. The probable dual nature of the phenomenon of hybrid sterility indicates that, in its generalized form, the problem of race and species formation is reduced to that of the origin of dynamic discontinuities of the living matter rather than to that of the origin of one or the other class of specific differences.

Dobzhansky's second paper is important because he bases his argument for the separation of two species of Drosophila, *pseudoobscura* and *miranda* on what may be called cytogenetic characters, a new departure in taxonomic technique. The external morphological characters in the two species are practically identical under the general field conditions. Yet, basing his argument on the following statements, the two species may be held distinct. "A species is a system, the members of which, because of their physiological properties, do not interbreed with members of other similar systems. Considered dynamically, the species represent that stage of evolutionary divergence, at which the once actually or potentially interbreeding array of forms is segregated into two or more separate arrays that are physiologically incapable of interbreeding. It is apparent that *D. miranda* and *D. pseudoobscura* must be considered distinct because they are isolated by the complete sterility of their hybrids.

The nature of the specific differences between *miranda* and *pseudoobscura* are chiefly cytological. There are differences in method of spermatogenesis, in chromosome morphology and in number of sex chromosomes. The process of meiosis is also different. The morphological external characters are slight but may be detected if environmental control of development is known. As Dobzhansky says: "The classification of dead specimens is hazardous."

EAST ON MUTATIONS

In a series of three papers in *Genetics* (20: 403-413, 414-442 and 443-451 all in 1935) on "Genetic Reactions in Nicotiana," Dr. E. M. East of Harvard University discusses the patterns which reacting genoms in a number of Nicotiana species produce after union in hybrids, and the type of variation which plays the major role in natural evolution.

In the first paper, devoted to the problem of "Compatibility," East suggests the idea that, in general, greater compatibility is shown when different species of Nicotiana are crossed when species having higher chromosome numbers are used as females. The female parent with the higher chromosome number presents broader possibilities for harmonious chemical reactions during early development if the embryo sac machinery is controlled by the parent having the larger chromosome number.

These conclusions arise from the study of "Phenotypic Reaction Patterns" in his second paper, dealing with 60 hybrids between Nicotiana species: (1) Reciprocal hybrids are identical whether the parents have the same or different chromosome numbers. (2) The genes change, producing the qualitative effects, which differentiate minor varieties and are so largely used in genetic research appear to be different, as a general group, from the gene changes which accumulate into specific differences. The latter are usually quantitative variations and are difficult of demonstration for this reason. The qualitative variations are usually easy to detect because they so often cause distortion, restrictions or stoppage of what have come to be normal processes through natural selection. These variations are brought about by genes which are usually incapable of playing a part in natural evolution, though they may be advantageous in building up knowledge of the hereditary mechanism. (3) The genoms of the various Nicotiana species are active in producing slight changes in the developmental patterns of hybrids. These reactions produce hardly any effect of dominance. (4) The influence of a genom is in no way proportional to its contribution of chromatin. Chromatin has no mass action. In a hybrid produced by a combination of 9-24 chromosomes, the 9 chromosome parent may produce special effects as likely as the 24 chromosome parent.

In his last and most important paper from the point of view of contribution to evolutionary thought, East submits five theorems which express his views and conclusions:

1. The great bulk of the mutations detected in the genetic laboratory and used in genetic research are recessive to the normal, the wild-type, or the survival type, as it may well be called, because restrictions in the physiological processes in which they are involved.
2. "Defective" genic isomers are not the mutations that serve as material in evolution.
3. Non-defective gene mutations are frequent in nature but are difficult to detect. (East elaborates his views on this theorum. He cites several instances where highly self fertilized lines, even after being inbred for 10 to 12 generations still are variable enough to indicate that this variability cannot entirely be due to environmental factors. He also cites a case where one line of *Nicotiana rustica* arose from a parthenogenetic parent. These diploid plants arose from a

haploid parent and in the first few generations when self-fertilized were "as much alike as if they had been cut with a die." "Several of these lines were continued from self fertilized seed, and within 3 or 4 years they were showing approximately the same amount of variability as ordinary selfed populations, a result which could only have come about from frequent small mutations.

4. Non-defective gene mutations, though distributed in the ordinary manner, operate in such a way that the result of their activities is not ordinarily recessive to wild-type.

   East explains: "When one considers the minuteness of detail in which one can trace the influence of both parents in forming an intermediate pattern in habit of growth, type and form of leaf, hairiness, chlorophyll production, and size and shape of all flower parts, it would seem that this theorem is valid.

5. The deviations forming the fundamental material of evolution are the small variations of Darwin.

   East returns to the Darwinian idea, modified by the demonstration of alternative inheritance.

East's closing summary paragraph is significant. It is thought that the recognition of this class of mutations, non-destructive mutation, that occur with a high degree of frequency and are active pattern formers, gives geneticists a new orientation to the problem of evolution. If such mutations occur with the frequency which certain evidence obtained from species hybridization experiments and from selections experiments suggest, the mathematical requirements for evolution under alternative inheritance may be satisfied, and theories as to the evolution of dominance made unnecessary.

ATAVISM OF THE GUINEA PIG

Sewall Wright interprets the reappearance of an ancestral trait along modern genetic principles. In his, "A Mutation of the Guinea Pig, Tending To Restore the Pentadactyl Foot when Heterozygous, Producing a Monstrosity When Homozygous" which appeared in *Genetics* (20: 84-107, 1935) he explains that guinea pigs normally have four toes on the front feet and three on the hind feet. Atavistic little toes are rather common and stocks have been developed which breed true to their perfect development. These differ from normals by multiple genetic factors. Another strain arising apparently by mutation is characterized by vestiges of atavistic little toes and in addition thumbs and one big toe. The latter is due to a semi-dominant gene. The characters appear when the animals are heterozygous but when homozygous dominant a monster appears which is lethal. The first mentioned stock Wright calls "D," the second, "Px." He has this to say about their probable evolutionary background.

"At first sight, it may seem most probable that in such a stock as "D" we are concerned merely with the fixation under selection of a combination of ancient genes, which had become nearly but not completely lost in the course of evolution. This becomes less probable on recalling that this evolutionary history has been common to all genera of the family Caviidae. Presumably the cavies lost their thumbs, big toes and little toes millions of years ago. In any event, it is highly improbable that Px producing gross monstrosity when homozygous, can be an ancestral gene."

The evolutionary process quite certainly did not consist in the dropping out of genes specially determining the above digits. Such dropping out of genes would be incompatible with life. It is more likely that in the course of evolution the basic heredity for perfect development has merely become overlaid by a new heredity suppressing these particular parts of the feet. While some of the genes fixed in strain D may be ancient alleles of such suppressors, they may also be new ones with greater inhibitory effects acting at such a moment in early development of the individual that they tend to suppress the effect of the digit suppressor and thus restore the ancestral pentadactyl foot.

CHROMOSOMES OF SALIVARY GLANDS

Calvin B. Bridges of the Carnegie Institution of Washington, Pasadena, Calif., from new studies of chromosomes of salivary glands of *Drosophila melanogaster* (Salivary chromosome Maps, *Journal of Heredity* 26: 60-64, 1935) finds confirmation for a statement made many years ago that duplications offer a method for evolutionary increase in lengths of chromosomes with identical genes. Genes within these duplicated portions could subsequently mutate separately and diversify their effects. He believes that the results of salivary gland chromosome studies demonstrate that certain sections of normal chromosomes have actually been built up in blocks through ''repeats.'' This goes far, he says, towards explaining species initiation.

INTERPRETATION OF TRIPLE HYBRIDS

By appropriate matings, P. C. Mangelsdorf and R. G. Reeves of the Texas Agricultural Experimental Station have produced Trigeneric Hybrid of Zea, Tripsacum and Euchlaena (*Journal of Heredity*, 26: 129-140, 1935). They say: ''Though the question of the resemblance of the triple hybrid to the ancestral form is nothing more than a matter for speculation, it is of interest and perhaps of some importance to note that we have in this hybrid a plant with such characters as might well have existed in the progenitor of the American Tripsocoeae. There is no denying that a plant of this type could have given rise, through mutation and selection, natural and artificial, to Zea, Euchlaena and Tripsacum. In fact, the potentialities of all three genera already exist in the hybrid and, were it fertile and capable of orderly segregation, it would be theoretically possible to isolate from the progeny of this plant all of the American genera of Tripsoceae which exist today.'' The probable nature of the progenitor of maize is also discussed, and is in general similar to the above, by P. Weatherwax: ''The Phylogeny of Zea Mays in The American Midland Naturalist 16: 1-71, 1935.

DE VRIES REINTERPRETED

In a review of the ''Genetic Nature of de Vries' Mutations in Oenothera Lamarckiana'' published in the *American Naturalist* (69: 545-559, 1935) Dr. Sterling Emerson of the California Institute of Technology analyzes an old problem in terms of modern theory along cytogenetic lines. It seems probable that most of the new forms that reoccur in the progeny of *Oenothera Lamarckiana* result from some complex sort of segregation of genes or aggregates of genes, already heterozygous in the parental form and not from mutations in the strict sense.

Ralph E. Cleland of Goucher College in a foot note to an obituary of ''Hugo de Vries, 1845-1935'' states: ''The mutations of de Vries do not arise as he thought they did; nevertheless, there is still a possibility that forms produced, if they breed true, and if they have survival value, may constitute the beginnings of new races.'' (*Journal of Heredity* 26: 289-298, 1935). For some excellent photographs of Hugo de Vries, see this paper. It also contains the story of the origin of Hugo de Vries' *Mutations Theorie* and a complete story of the important biological contributions of this great pioneer in genetics.

PANGENESIS AND INHERITANCE OF ACQUIRED CHARACTERS

Lamarck was neither the first nor the most distinguished biologist to believe in the inheritance of acquired characters. He merely endorsed a belief which had been generally accepted for at least 2,200 years before his time and used it to explain how evolution could have taken place. The inheritance of acquired characters had been accepted previously by Hippocrates, Aristotle, Galen, Roger Bacon, Jerome Cardan, Levinus Lemnius, and many others including Erasmus Darwin. A review of ''The Inheritance of Acquired Characters and the Provisional Hypothesis of Pangenesis'' was presented in the *American Naturralist* (69: 417-425, 1935). The background of the hypothesis is given, by Conway Zirkle of the University of Pennsylvania.

''Two naturalists who lived before

Lamarck and who did *not* believe in the inheritance of acquired characters are (listed by Brock): the unknown editor of Aristotle's *Historia Animalium* and the philosopher, Immanuel Kant.

"In order to understand what Charles Darwin meant by his provisional hypothesis of pangenesis, it is necessary that we give to the terms he used the meaning which they acquired during the twentieth century. Darwin's conception of the germplasm was not the one currently accepted. Darwin considered the theory that the foetus was produced from an egg fertilized by a single spermatozoan but rejected it. He believed that the whole semen was a fertilizing substance and that the foetus resembled the father in proportion to the amount of semen ejaculated in coition. Furthermore he believed in telogeny and in the specific influence of semen upon the mother's body."

The hypothesis of pangenesis is as old as the belief in the inheritance of acquired characters. It has been endorsed by Hippocrates, Democritus Clement of Alexandria and a host of others.

"Unfortunately in our over simplification of the history of the biologic we have neglected the greater part of these earlier contributors and have consequently emphasized Lamarck's explanations of the causes of evolution out of proportion either to its originality or to its intrinsic worth. As a result this neglect of Lamarck's predecessors, modern biologists are periodically rediscovering forgotten naturalists and finding anew that Lamarck's hypothesis is really pre-Lamarckian."

EVOLUTION OF THE HORSE

R. C. Robb of Syracuse University presents an analysis of the form indices of the equine skull and shows that the form of the horse changed from the 'cat-size' Eohippus to that of the modern horse of six feet or more in consequence of increase in the *total body size.* "All specimens of the same size exhibit the same facial indices, irrespective of their phylogenetic status. . . . There is no evidence for the belief that specific mutations governing differences in form (in animals of equal stature) have played any significance in the facial evolution of the equine skull." These are some of the conclusions in Robb's "A Study of Mutations in Evolution, I Evolution in the Equine Skull (*Journal of Genetics* 31: 39-46, 1935).

In the second of the above series, (II Ontogeny in the Equine Skull, *Journal of Genetics* 31: 47-52, 1935) Robb begins by stating the problem: "If size is the only variable that is responsible for the change of form during the evolution of the equine skull then the skull of the modern horse should manifest the primitive features of Eohippus, when, and when only, it is of the same absolute magnitude." This has been tested and the proposition confirmed. He says "The appearance of orthogenetic trend in the evolution of the equine skull is due to the attainment of successively great adult size by the more recent genera." He suggests that mutation affecting total body size may have brought this about. Robb finds no need for a teleological explanation.

ORGANIZATION IN LIVING MATTER

H. S. Burr and F. S. C. Northrup of the Departments of Anatomy and Philosophy of Yale University present a modified "Electro-Dynamic Theory of Life." Their views are stated in the *Quarterly Review of Biology* (10: 322-333, 1935).

The pattern or organization of any biological system is established by a complex electro-dynamic field, which is in part determined by its atomic physico-chemical components and which in part determines the behavior and orientation of those components. This field is electrical in the physical sense and by its properties it relates the entities of the biological system in a characteristic pattern and is itself in part a result of the existence of those entities. It determines and is determined by the components. More than establishing pattern, it must maintain pattern in the midst of a physico-chemical flux. Therefore it must regulate and control living things, it must be the mechanism the outcome of whose activity is "wholeness," organization and continuity. The electro-dynamic field is then comparable to the entelechy of Driesch, the embryonic field of Spemann, the biological field of Weiss.

Three factors are present in the normal development of an organism. The cells must possess a certain genetic constitution, a certain cellular environment and a certain position in an electrical field. Geneticists have confirmed the belief that the formed elements in the nucleus, chromosomes, partly determine the growth and differentiation of cells. The experimental embryologists have shown that intercellular relationships are no less important. In the physical world the nature of the atom is dependent upon the number of entities which comprise it and the field in which they lie, the position of the electrical orbits being of fundamental importance. So, on a very much more complex scale in a biological system the fate of any group of cells is determined in part by the position those cells occupy in the electro-dynamic field of the embryo.

A considerable body of information is available concerning the physical and chemical structure of protoplasm but we know little of the way in which the elements are organized into a dynamic whole. The living cell is not a formless agglomeration of chemical substances but is an intergraded and coordinated system. A definite pattern of relationships must exist.

The pattern of the organization of the molecular and atomic constituents of protoplasm is a more important problem to biology than the physico-chemical nature of the entities themselves. It is not enough to know the chemical formula of protoplasm. It is of vital importance to understand how the elements are related to each other, how they are gathered together in a single "whole" system. If the electro-dynamic theory is sound the characteristic relationship of the elements of any biological system is a function of the field of the system. If this be true then the great jump from the living organic matter to non-living physical matter is no longer inexplicable. The difference between the two is to be found in all probability in the more complex fields and more complex molecular structure. Life then is not a special creation but an expression of fundamental law operating in living and non-living matter alike.

PUBLICATIONS

The following are some of the books published in United States bearing upon the problems of Organic Evolution and Genetics, in 1935: *Principles of Genetics and Eugenics by Nathan Fasten* (Ginn and Co.); *Genetics by H. S. Jennings* (W. W. Norton); *Embryology and Genetics* by T. H. Morgan (Columbia University Press), and *The Principles of Heredity* by L. H. Snyder (D. C. Heath and Co.)

ECONOMIC BOTANY

BY H. K. HAYES

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The science of genetics continues to be applied in the production of improved varieties of crop plants, and the trained plant breeder uses Mendelian principles as a direct working method. Outstanding accomplishments are given although the list is by no means inclusive but indicative only of the results obtained with other crop plants.

CORN BREEDING AND PRODUCTION

The Iowa Corn Research Institute established in Iowa through cooperation between the Iowa Agricultural Experiment Station and the United States Department of Agriculture has as its purpose the encouragement and coordination of maize research in Iowa. In November, 1934, commemorating six decades of the modern era in botanical science, symposia on "Teaching General Botany," "Erosion Prevention Capacity of Plant Cover," and "Applied Botanical Research in Maize" were held at the Iowa Agricultural Experiment Station. (See *Iowa State Journal of Science 9, Nos. 2 and 3, 1935.)*

Several papers emphasize important results from breeding inbred lines of corn of known characteristics and the use of first generation crosses for the commercial crop. One of the most interesting of these, by Holbert and others, states that the use of chinch bug resistant hybrids appears to be the most effective way to combat second brood chinch bugs. It was emphasized that resistant hybrids would aid in stabilizing yields. Further data on top crosses as a means of estimating the performance of inbred lines in relation to chinch bug infection were given by Holbert, and Jenkins presented data to support his belief that inbred lines acquire their individuality in top crosses very early in the inbreeding process. A top cross may be made with a high yielding commercial variety in the first or second generation of inbreeding, the yielding ability of the inbred line in crosses determined, and those strains selected for further inbreeding and selection that perform most satisfactorily in top crosses.

Hughes emphasized the necessity of research and the importance of continuing to develop efficiency in production methods. He says: "It is obvious that to follow any other program must result in an increase in the cost of producing a bushel of corn, or a hundred pounds of pork, to such an extent that, even though the price to the consumer be increased, there is no resulting increase in the purchasing power of the farmer." He further points out that the general use of improved practices in breeding and growing the crop and improved methods of soil management could give as great net return to corn growers in Iowa if only two-thirds of the present acreage was used, and at the same time soil fertility could be maintained and soil erosion losses reduced. He agrees that a sane policy is to promote increased efficiency but also on a controlled acreage.

An interesting summary on "Six Decades of Corn Improvement and the Future Outlook" was given by Secretary Henry A. Wallace. He states his belief that continued studies on corn genetics in the next 20 years will give results that will be capable of wide application to all life. He states the use of hybrid seed from controlled crosses of known productivity will make possible an average yield 5 to 10 bushels higher per acre than obtained at present.

These reports and viewpoints help to emphasize the value of modern methods of corn breeding. Cates, in the *Country Gentleman* for November, 1935, says that the biggest plant breeding project ever set up in this country is the one covering corn improvement. These breeding methods have led to the control of diseases, the breeding of non-lodging strains with strong root anchorage and increased yields of from 10 to 30 per cent. The contrast between the uniform produce from a hybrid and the variability obtained from normal corn can be appreciated only by observing results in actual field comparisons.

An interesting popular account of hybrid corn is given by Richey, ("The What and How of Hybrid Corn," *U. S. Dept. of Agriculture Farmers Bulletin 1744.* 1935.)

CONTROLLING STEM RUST IN WHEAT BY BREEDING

One of the most serious menaces of hard red spring wheat is black stem rust. The Minnesota Agricultural Experiment Station and the United States Department of Agriculture have been cooperating on the problem for over 20 years of breeding rust resistant hard red spring wheats that are agronomically desirable and have the high quality for bread making purposes that characterize spring wheat flours. The season of 1935 gave an admirable opportunity to test the rust resistance of Thatcher, a new variety that was first commercially released in the spring of 1934. Conditions were favorable for the blowing of rust spores from the south where they over-winter normally, and a heavy natural epidemic of rust occurred over the entire spring wheat territory of United States and Canada. Thatcher withstood the epidemic remarkably well, giving good yields of high quality wheat when other commonly grown susceptible varieties were severely injured, so much so in many cases that they were not harvested. The results were accomplished by an application of fundamental principles learned through intensive studies of the nature of resistance, the mode of inheritance of reaction to rust under field conditions, and the nature of the rust organism.

WHEAT IMPROVEMENT IN KANSAS 1874-1934

Parker, (*Biennial Report Kansas State Dept. Agr. 29:* 139-164), summarizes progress in the last 60 years in Kansas in obtaining wheat varieties adapted to special needs. Major steps included: (1) The introduction of hardy varieties from Russia early in the present century. (2) The breeding of Kanred wheat from a selection made in 1916. This variety proved superior to Turkey in yield, earliness, winter hardiness, rust resistance, and yield of flour. Kanred is grown widely in Northeast Kansas, Oklahoma, Texas, and is a leading variety in Argentine. (3) The wide use of Blackhull wheats since 1917. This variety group originated from a selection made by a farmer in 1912, and at present, millions of acres are grown in Kansas. The variety excels in yielding ability and test weight although it is not the equal of Turkey in quality and somewhat less winter hardy than Kanred. (4) The development in recent years of Tenmark, Kawvale and Quivira. Tenmark was produced from a cross of Turkey with Marquis giving a winter wheat that approaches in quality the celebrated spring wheat variety, Marquis. Kawvale was obtained by plant selection from a commercial variety and is well adapted to southeastern Kansas. It is resistant to leaf rust and Hessian fly. Quivira is an early maturing variety obtained by crossing the Canadian hard red spring wheat, Prelude, with Kanred. While much progress has been made, there is room for further improvement, and Parker emphasized his belief that in the next 60 years much better wheat varieties for Kansas will be bred.

CAYUGA SOYBEAN

This new variety is described by Wiggans in *Bulletin 601* of the Cornell University Agricultural Experiment Station issued in 1934. There has been a steady increase in the growing of soybeans and in recent years a marked increase in seed production, particularly that part crushed for oil. Much greater amounts can be utilized as a high protein supplement for certain classes of livestock. Cayuga is the result of an introduction from Harbin, Manchuria in 1925. Its isolation and introduction followed a period of extensive study in New York. It combines the characteristics of high seed production and early maturity and should be well adapted as a seed bean in other parts of northern United States and Canada.

STRAWBERRY BREEDING

Darrow and others, *(Journal of Heredity 1934)*, give a pictorial and word description of the breeding of improved strawberry varieties during a period of twelve years. An outline is given of methods of work that have been and are being used. The methods include crosses between varieties adapted to the district which the work is intended to benefit, crosses between varieties adapted to different districts, crosses with wild species containing desirable characters, the intensification of desirable characters by inbreeding and selection and by combinations of the above methods. The most logical approach consists of selecting as parents the varieties that together combine the characters desired in the improved variety. As a result of the work seven new varieties have been introduced, one for the home garden for the South, a canning variety for the Pacific Northwest, and five general market varieties.

RUBBER CONTENT OF CRYPTOSTEGIA SPECIES

Investigations of the rubber producing capacity of two species of *Cryptostegia, grandiflora* and *madagascariensis,* and of a natural hybrid between them have been made in Florida. Rubber has been produced from wild *Cryptostegia* plants in India and Madagascar, but no system of cultivation has been developed. The interspecific hybrid was discovered in 1927 from seeds sown from a single pod of *C. grandiflora, (U. S. Dept. of Agr. Tech. Bul. 457,* 1934). Seeds from another pod of this same plant bred true to the grandiflora type. The hybrid was much more vigorous than the normal species and exhibited morphological character differences which were distinct. The maximum rubber content found in any composite sample of *C. grandiflora* was 3.13 per cent, in *madagascariensis* 2.94 per cent and for the hybrid 5.97 per cent. It is significant also that the rubber content of the hybrid has been higher consistently than in either parent species.

The hybrid does not breed true from seed, but marcottage or air layering has been used in vegetative propagation. A ring of bark 1-2 inch in width and sufficiently thick to reach the cambium layer is removed from just below a node in a well matured branch. This incision is surrounded by a mixture of peat, sand and sphagnum and placed in a specially designed cardboard marcot box that is kept moist at all times. When the new individual has a well developed root system it is removed from the parent plant, placed in a large pot or box, and set out eventually in the field. The method is satisfactory as a means of propagating high yielding hybrids.

COMPETITIVE EFFICIENCY OF WEEDS AND CEREAL CROPS

The studies of Pavlychenko and Harrington, (*Canadian Journal of Research 10: 77-94,* 1934), emphasize the importance of comparisons under definite soil and climatic conditions of the competitive features of weeds and crop plants. This was accomplished by growing various weeds and crop plants alone and in competition and comparing the crop of weeds obtained with reference to the type of nearby small grain crop including varieties of barley, wheat, spring rye, oats, and crown flax and a considerable number of common weeds. Studies in root development and in readiness and uniformity of seed germination were made also. Cereal crops were classified in the order of competing ability as follows; barley, rye, wheat and oats, flax. *Brassica arvensis* and *Avena fatua* were the most vigorous competitors among the weeds.

THE GENETICS OF GARDEN PLANTS

Marked advances are being made with economic plants in obtaining an understanding of the laws of heredity. In the foreword to *The Genetics of Garden Plants* (MacMillan, 1934 by Crane and Lawrence), Sir Daniel Hall says: "The authors of this book, therefore, have endeavored to bring together under one cover an account of investigations dealing with the plants of the garden and the orchard that have a bearing on the practice of the plant breeder who is aiming at results of economic value."

The authors conclude that the races of economic plants have originated under the operation of selection in the following ways: (1) Gene mutations. These are actual changes in the heritable factors that come about, in many cases at least, by unknown causes. It is of interest that East recently has stated, (*Genetics 20: 403-451,* 1935), his conviction that small gene changes are occurring constantly and that these are the basis for evolutionary change. (2) Interspecific hybridization without cytological aberration. New types are obtained as a result of the new combinations of genetic factors of the parent species. (3) Simple auto-polyploidy, such as the increase of chromosome numbers as multiples of a basic number without change in the heritable factors. Such changes may be of great importance in horticultural plants that are vegetatively propagated because polyploids of this type are frequently more vigorous vegetatively than diploid species. (4) Interspecific hybridization accompanied by chromosome doubling and other cytological aberrations. A common type of this sort that has played a large part in evolution in plants is a result of the combination of double the number of chromosomes of the two parent species. (5) Interspecific hybridization between polyploid species.

The book contains interesting and valuable information to the economic breeder on such questions as the genetic causes of self sterility found so commonly in many plant species and the inheritance of characters in garden plants in relation to the various categories of polyploidy that occur.

MANUAL OF THE GRASSES OF THE UNITED STATES

The agricultural adjustment program has helped materially to give renewed interest in grass and forage crops as this class of plants is taking the place, to a large extent, of the acres formerly used in producing cash crops. A valuable and timely publication of the United States Department of Agriculture under the above title, and authorship of A. S. Hitchcock, appeared in 1935 as *Miscellaneous Publication No. 200,* 1024 pp., U. S. Department of Agriculture. Hitchcock points out that the grasses are of the greatest use to the human race and include such important plants as the cereals, sorghums, sugar cane and bamboos, as well as the bulk of the forage for domestic animals. The more important grasses are discussed under the headings, hay grasses, pasture grasses, soiling grasses, silage grasses, range grasses, grasses in industrial arts, and ornamental grasses. The manual includes a taxonomic classification and description of 159 genera and 1,100 species of which 44 genera and 151 species are introduced. It is well illustrated, containing 1696 text figures.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, 19th St. and the Parkway, Philadelphia, Pa.

AMERICAN ASSN. OF ECONOMIC ENTOMOLOGISTS, Amherst, Mass.

AMERICAN ASSN. OF MUSEUMS, 2 W. 46th St., New York City; c/o Smithsonian Institution, Washington, D. C.

AMERICAN MICROSCOPICAL SOCIETY, Kansas State Agricultural College, Manhattan, Kan.

AMERICAN MUSEUM OF NATURAL HISTORY, 77th St. and Central Park W., New York City.

AMERICAN NATURE ASSN., 1214 Sixteenth St., Washington, D. C.

AMERICAN NATURE STUDY SOCIETY, City Hall, Minneapolis, Minn.

AMERICAN ORNITHOLOGISTS' UNION, 1939 Biltmore St., N. W., Washington, D. C.

AMERICAN PHYTOPATHOLOGICAL SOCIETY, Bureau of Plant Industry, Washington, D. C.

AMERICAN SOCIETY OF NATURALISTS, University of Pennsylvania, Philadelphia, Pa.

AMERICAN SOCIETY OF ZOOLOGISTS, Rutgers University, New Brunswick, N. J.

BOSTON SOCIETY OF NATURAL HISTORY, 234 Berkeley St., Boston, Mass.

BOTANICAL SOCIETY OF AMERICA, Cornell University, Ithaca, N. Y.

ENTOMOLOGICAL SOCIETY OF AMERICA, Kansas University, Laurence, Kan.

EUGENICS RESEARCH ASSOCIATION, Cold Spring Harbor, New York.

FIELD MUSEUM OF NATURAL HISTORY, Roosevelt Road and Lake Michigan, Chicago, Ill.

MUSEUM OF THE COMPARATIVE ZOOLOGY, Cambridge, Mass.

NATIONAL ASSN. OF AUDUBON SOCIETIES, 1775 Broadway, New York City.

NEW YORK MICROSCOPICAL SOCIETY, American Museum of Natural History, New York City.

NEW YORK ZOOLOGICAL SOCIETY, 101 Park Ave., New York City.

PALEONTOLOGICAL SOCIETY OF AMERICA, American Museum of Natural History, New York City.

REPTILE STUDY SOCIETY OF AMERICA, INC., 108 Convent Ave., New York City.

UNITED STATES NATIONAL MUSEUM, Tenth St. and Constitution Ave., Washington, D. C.

DIVISION XXIII

MEDICAL SCIENCES

MEDICINE AND PATHOLOGY

BY MAX TRUBEK

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GENERAL

During 1935 a number of important therapeutic procedures, previously introduced, were put to more widespread use and their worthiness evaluated. Not all remedial measures, announced with acclaim, stand the test of critical appraisal after adequate trial. In many instances a limited usefulness is determined by the balanced judgment of those entirely familiar with the known course and usual management of the disease in question.

POLIOMYELITIS

There was an increase over the usual prevalence of poliomyelitis in New York City during the summer of 1935. The bulletin of this Department of Health reports a total of about 1,900 cases between July and October. The previously recorded years showing greater incidence were 1916 with 9,023 cases and 1931 with 4,133 cases. In recent years the diagnosis has been more promptly made; early and mild cases were included which might have been passed unrecognized by physicians less alert for the earliest manifestations of this illness. There has been a progressive advance in the age of incidence since 1907, nearly 42 per cent occurring in those between five and nine years old in 1933 as compared with 15.8 per cent of the total number of cases for that age-period during the epidemic of 1916. Little is as yet known regarding the spread of the disease. It has long been suspected and now fairly well determined that the individual becomes infected by passage of the virus through the nasopharynx and thence along the nerve fibers to become ''fixed'' in the motor cells of the spinal cord. It would seem that human carriers, themselves immune, are important in the transfer of the infectious agent to susceptible persons during the time of epidemics.

The use of convalescent human blood serum in the treatment has been of no value, as determined by Dr. Josephine Neal in recent epidemics. Theoretically, too, it is unlikely that substances administered by way of the cerebrospinal fluid could effectively reach damaged nerve cells deep within the substance of the cord. Individuals who recover are usually immune to subsequent attacks and in the blood of such human beings, as well as monkeys, antibodies for the infective virus have been demonstrated. These known facts led to the attempts to produce artificial active immunity in humans in the susceptible age-periods by the use of vaccines prepared from the central nervous system of infected monkeys, an analogous procedure to that used in the protection against rabies. The use of such vaccines as have been available had been strongly deprecated by members of the Rockefeller Institute and of the United States Public Health Service. They believed that the use of a living virus presented dangers of actual transfer of the infection to the innoculated individual and that the "killed" virus could not evoke the production of adequate protective substances.

The living attenuated vaccine prepared by Dr. John A. Kolmer of Philadelphia was found to protect monkeys so that they could not be subsequently infected and in human beings led to the rapid production of immune antibody in the blood serum, especially in individuals in whom this substance was previously lacking. His vaccine consists of a sterile suspension "carrying 4 per cent of a very finely divided remote monkey passage spinal cord virus" treated with 50 per cent glycerol for one week and 1 per cent sodium ricinoleate and 1:80,000 phenyl mercury nitrate at 37° C. for 24 hours followed by from 10 to 14 days in a refrigerator at 12 to 16° C. Three doses of the vaccine at weekly intervals were given. In addition to its use at Temple University Hospital in Philadelphia it was distributed to 36 states, mostly in epidemic areas and given to over 10,000 children.

In New York City Doctors Maurice Brodie and William H. Park also produced a vaccine capable of producing immunity in the monkey and giving antibody production in humans fairly rapidly and lasting for long periods. The use of injections of the active virus was discarded because of the danger of infection. An apparently safe and effective vaccine was produced when the virus suspension was just inactivated with a solution of formaldehyde. "It was found that a 5 cc dose was sufficiently antigenic so as to produce an immunity better than that developed after a mild attack of the disease and sometimes comparable with that produced by either immunization with an active virus or a severe attack of poliomyelitis." The vaccine was given in either one or two doses each 5 cc in amount intracutaneously and subcutaneously. More than 2,300 vaccinations had been given at the time of their report in October, 1935. The material seemed to be perfectly safe, apparently non-infective. A study was carried out in Kern County, Bakersfield, California, where more than 1,600 children were vaccinated to determine whether or not the immunity was sufficient to protect against natural exposure in an epidemic area. No conclusive information regarding the protective value of the vaccine under these conditions could as yet be given.

At the very end of the year a report appeared in the *Journal* of the American Medical Association by Dr. J. P. Leake, Medical Director, United States Public Health Service, announcing the occurrence of 12 cases of paralytic poliomyelitis among the vaccinated children. Nine of the cases followed the use of vaccine A (living virus) and five of these patients died. One of the three patients died to whom vaccine B (killed virus) was given. In almost each case the paralysis occurred in the arm or leg into which the vaccine had been administered. Dr. Leake states that "although any one of these cases may have been entirely unconnected with the vaccine, the implication of the series as a whole is clear." It is believed that to many physicians this series of cases, following by intervals of from six to 14 days the injection of one or the other of two different vaccines, renders undesirable the further use of poliomyelitis virus for human vaccination at present. Dr. Leake also emphasizes the fact familiar to most of the workers that the blood of patients known to be immune because of a previous attack of poliomyelitis often fail to show the neutralizing antibodies by which immunity has been measured in the experimental work with the vaccines.

ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF LOBAR PNEUMONIA

The remarkable healing of pulmonary tuberculosis incident to artificial pneumothorax has probably stimulated the application of this procedure as a therapeutic measure in lobar pneumonia. Favorable and even striking benefits as a result of this operation to patients with lobar pneumonia had been reported. It would seem that with collapse the diseased lung is put at rest and healing proceeds more quickly; there might also be lessened systematic absorption of toxic products because of the compressed lymphatic channels, a critical fall in temperature having been reported shortly after the induction of the pneumothorax. The separation of inflamed pleural surfaces as a means of quickly alleviating the intense respiratory pain also seemed a justifiable reason for giving this method an adequate trial. Many hospitals throughout the country undertook its use during the last winter season.

The use of artificial pneumothorax has many limitations in addition to possessing certain hazards. The technique must be performed by one experienced in its use and must be carried out along with frequent *x*-ray studies of the chest. It cannot be used in the presence of firm adhesions surrounding the affected lung, nor is it safe when the opposite lung is also involved. It should never supplant the use of specific serum therapy in cases of Type I pneumonia for which this substance has a remarkably beneficial effect when its use is not delayed. There is also an efficacious specific serum for Type VII pneumonia and many also advocate the use of serum in early cases of Type II.

With these limitations in mind Dr. Francis G. Blake and his associates at the New Haven Hospital have developed a technique for the proper application of this procedure and have evaluated its benefits chiefly in relation to the day of the disease at which this measure was applied. The air was administered slowly and at repeated intervals so that large amounts were used in an effort to maintain a positive intrapleural pressure and complete collapse of the lung provided adhesions did not interfere. Ordinarily the space between the lung and interior of the chest wall is a partial vacuum with a negative reading to atmospheric pressure. There were four groups comprising cases in which treatment was begun within 24 hours after onset of symptoms to those advanced cases of more than 72 hours duration. All of the four cases treated early, recovered promptly. The results were progressively less favorable the more remote after the onset that the pneumothorax was instituted. Beneficial effects were reported in relieving some of the distressing symptoms such as pain, restlessness, shortness of breath and toxemia. Similar results have been our own experience in following this procedure at Bellevue Hospital.

Reporting their results with the use of this method Dr. Jesse C. M. Bullowa, at Harlem Hospital, New York City, and Dr. Edgar Mayer at the New York Hospital point out certain limitations and hazards involved in the use of pneumothorax in lobar pneumonia. "It is apparently recommended only in the early cases. Later in the disease, when well established consolidation has occurred, pneumothorax cannot collapse the consolidated lung. Patients with bacteriemia (bacterial invasion of the blood stream) either early or late in the disease, do not respond favorably. . . . No one can selectively collapse the uninvolved lobe. . . . The introduction of air into an inflamed pleural sac presents conditions favorable to the development of fluid that may become purulent." This latter complication seems to have occurred with greater frequency in a number of series of cases treated by this method than in cases in which this method was not applied. There are also other theoretical and actual factors which further limit the usefulness of this procedure. The presence of disease of the heart or its great blood vessels also constitute a hazard for the application of this treatment.

It will be seen then that the selection of the proper method of treatment of a patient with pneumonia requires the careful examination from all aspects, clinically and bacteriologically and when possible with the use of the *x*-ray. No one method applies to all cases, but there is a best available method for any one particular individual with his particular type of pneumonia. Artificial pneumothorax offers another technique for occasional application in the treatment of a patient with lobar pneumonia where circumstances suggest that this method can be of added help. Its continued trial in hospital wards will give us a better understanding of its value and contraindications.

TOTAL THYROIDECTOMY FOR INTRACTABLE HEART DISEASE

The rationale of performing a major surgical procedure upon a patient already seriously ill with either congestive heart failure or angina pectoris had its origin in the researches of Dr. Blumgart and his co-workers in Boston upon the velocity of blood flow. They demonstrated the existence of an intimate direct relationship between the tissue demands as expressed by the basal metabolic rate and the speed of the blood flow. Because the blood flow is increased with accelerated metabolism and with consequent increased circulatory demands upon the heart they reasoned that by depressing the metabolism to a marked degree a hitherto inadequate cardiac output might become sufficient for the new depressed demands. Where cardiac pain was a distressing manifestation of an inability to meet the circulatory requirements, this symptom might also be relieved if the demands upon the heart were correspondingly minimized. The experience of most investigators indicated that only by complete removal of all of the thyroid gland could the persistently low basal metabolic rate be maintained; if vestiges of tissue were left behind these would subsequently regenerate and improvement due to the operation would, therefore, only be temporary.

The surgical procedure, properly performed, is not particularly hazardous. The complete removal of this gland does require accurate anatomical knowledge so that important adjacent structures are neither injured nor accidently removed. The technique and pitfalls are known to surgeons experienced in this work and have been discussed in the medical literature, particularly by Dr. David D. Berlin who performed the operation upon Dr. Blumgart's first cases. Apart from the proper selection of patients submitted to this therapy it must be realized that when all of the thyroid is removed the condition of myxoedema results with its attendant mental and physical retardation and with the tendency to develop tissue swellings and the accumulation of fluid in the body cavities. Because of the remarkable amelioration of symptoms in many patients upon whom this operation has been performed the procedure merits careful consideration in spite of its dangers and unpleasant by-results. The ultimate success or failure of this method depends to the largest extent upon the very careful judgment exercised in the selection of patients and requires close cooperation between the internist and the surgeon.

The operation is considered chiefly for those patients with chronic heart failure, in whom unbearable shortness of breath or the uncontrollable accumulation of fluid in the soft tissues or body cavities follows upon any attempted activity. It is also applied in patients who have had in the past an attack of coronary occlusion and, although healing and relative adequate heart muscle function has been reestablished, life becomes unendurable because of the occurrence of the pain of angina pectoris, of a severity out of all proportion to the residual myocardial defect. Keeping in mind the unpleasant postoperative possibilities, each patient must undergo a prolonged period of observation with the use of accepted medical measures of known value. Many questions must be satisfactorily answered. Has the patient had sufficient bed rest? Has he had the benefits of adequate doses of digitalis or the judicious use of diuretics, especially the optimal doses of salyrgan combined with the proper limitation of fluids? How active does the patient have to be? Or if the question is one of cardiac pain: Has sufficient time elapsed since the occurrence of the acute episode? Are all of his pains of cardiac origin or are some of a functional character? Has he had adequate limitation of activity and tried the drugs of accepted value? If all of these questions have been cautiously weighed and satisfactorily met and if the economic factor is such that the patient cannot afford the prolonged trial, often over a period of years, then the choice of operation by an experienced surgeon can be decided. Unquestionably a valuable procedure for the occasional carefully selected patient can be thrown into disrepute because of subsequent failure due to a hurried or improper decision.

There have been a number of instances of remarkable rehabilitation of bedridden patients following our experience with this operation at Bellevue Hospital; there have also been failures. In Boston, under the direction of Doctors Blumgart and Berlin, many more successes have been recorded. It must also be warned that these patients must continue under careful medical observation not only because they are still patients with heart disease but also because the thyroid deficiency must be carefully regulated by the judicious use of a little thyroid extract. Otherwise the very undesirable signs and symptoms of profound thyroid deficiency will become manifest.

SEX-ENDOCRINE FACTORS

The gradual elucidation of the problems of the reproductive cycle in women during the past two decades, with the recent brilliant accomplishments, form an outstanding chapter in glandular physiology. With the contributions to knowledge by these scientific investigations has come a better understanding of the treatment of the disorders of menstruation. New and effective substances have been produced and many older preparations, now obviously without even theoretical value, have been discarded.

The secretion of the anterior lobe of the pituitary gland has been shown to stimulate the activity of both the ovary and testis; these glands would otherwise remain dormant. This new and important discovery was made by Dr. P. E. Smith in this country during 1925 and a little later a similar announcement came from Doctors Zondek and Aschheim in Germany. Four hormones have been identified in the blood and urine and placental tissue of the female. Each can be demonstrated by a specific test. Our present-day knowledge of these factors has recently been summarized by Dr. Robert T. Frank of New York, a pioneer in the study of the female sex hormones.

Even before the onset of menstruation Dr. Frank has demonstrated a cyclic excretion of estrogenic (concerned with uterine bleeding) substance in the urine. In the normal adult (menstruating) female this substance and other hormones (chiefly the anterior pituitary, gonadotropic) occur in the circulating blood and urine, reaching maximum concentrations and receeding with periodic regularity during each cycle. When menopause is fully developed no estrogenic substance is found either in the blood or urine, but in many instances the gonadotropic (ovary stimulating substance from the anterior pituitary gland) substance in the blood is increased at that time. In younger women with underfunctioning of the ovaries there is a varying degree of reduction in amount of these hormones in the blood or urine. When none of the substance can be found in either the blood or urine complete absence of function of the anterior pituitary gland and ovaries can be assumed as far as the production of these hormones is concerned. The hormone progestine appears in the urine just before menstruation but its cycle in the blood has not yet been demonstrated. It is secreted by the corpus luteum, (specialized cells of the ovary, appearing after escape of the ovum and remaining until after the next menstrual period).

As a result of the study of these hormone factors the remarkable test for pregnancy was devised by Aschheim and Zondek and later modified by Friedman and others. Within the first week of impregnation a marked increase of the gonadotropic factor occurs both in the blood and in the urine. The rise in concentration may be a thousand fold. These high titers, according to Dr. Frank, persist until shortly after labor, the level then drops to the non-pregnant normal unless placental tissue remains adherent to the uterine wall. In two conditions known as hydatid mole and chorioepithelioma, characterized by abnormal growth of placental tissue cells, the blood and urine gonadotropic substance reaches excessively high levels and does not disappear unless the diseased tissue has been completely eradicated or destroyed. The pregnancy test thus indirectly becomes an important diagnostic aid in evaluating success after the removal of such growths.

During pregnancy the estrogenic substance increases somewhat in the blood after the eighth week but its estimation is not ordinarily utilized as a test for pregnancy. This substance is excreted in the urine in increasing quantities as pregnancy advances. Fetal death results in the disappearance of the blood estrogenic factor within 24 hours, the urinary pregnancy tests (gonadotropic substances) may persist for days.

In addition to the facts already enumerated, Dr. Frank, in summarizing our available present day knowledge, includes also the following statements: Functional diseases of the female genital tract appear due to disturbances of the prepituitary cycle. With present methods this cannot always be demonstrated by blood and urine hormone studies. In the male there is no evidence of a prepituitary cycle or of a senile condition corresponding to the menopause. The female and male sex glands produce distinctive hormones, which have been recovered from the blood and urine. A substance apparently identical with the testis hormone is found in the female; estrogenic substance is found in the male. Normal genital function in the female is dependent on synchronism of prepituitary, estrogenic and progestational blood cycles. The testis hormone has been demonstrated in the blood and urine. No cycle has been found and little correlation between male functional diseases and changes in the hormonal balance has as yet been discovered. Organic disease in the male (chiefly malignant tumors of the testis) can produce changes in the excretion of gonadotropic principle. The diagnosis of such growths is aided by the application of the urine pregnancy test.

Within recent years concentrated preparations of the estrogenic and also of the gonadotropic substances have been made from the urine of pregnant women or from placental tissue. Although these substances are given for a variety of disturbances their greatest usefulness has been in their application to the symptoms associated with the menopause and for uterine bleeding of a functional nature, respectively. Quite recently a more effective preparation of progestine has been prepared. The use of this hormone has considerable theoretical value, and physicians have awaited its availability in concentrated, active preparations. New and even more effective methods of organotherapy will be developed as a result of these studies, intensely pursued throughout the world.

TRAUMA AS A CAUSE FOR CANCER

As new knowledge of specific causes of cancer comes to light and the exciting factors in any given instance better understood, it no longer is so often permissible to assign the cause to injury, even though the clinical history suggests such a relationship. Experimental cancer is being produced in a variety of ways and in certain instances new growths in humans have been associated with definite physiological disturbances producing peculiar factors in no way the result of simple trauma. Such an understanding is of medico-legal value, the natural occurrence of cancer must not be interpreted as due to an accident unless there is evidence that conditions known to be important in the genesis of cancer have been evoked. The modern attitude toward this subject has been entirely reviewed during the past year by Dr. James Ewing of Memorial Hospital, New York.

It is now recognized that tumors of the parathyroid gland can produce alterations in the skeleton and one type of tumor, giant cell tumor of bone, often in the past ascribed to previous injury, can result from such a disturbance. Treatment, now, is directed not only toward the bone tumor but attention is given to the source of the physiological disturbance. The ingestion of radioactive material with absorption and deposition in the bone marrow has been shown by Dr. Harrison Martland to be the inciting cause of subsequent bone sarcoma in a very high proportion of patients. Tumors of the breast in animals have been produced by the repeated innoculation of estrogenic substances and there is some evidence that certain human breast tumors are associated with an increase of this substance. Certain refined "cancerigenic" substances of coal tar origin such as dibenzanthracene applied to experimental animals produce malignant new growths with a certainty such as the association of tumors with trauma has never attained. Single injury as the real cause of cancer seems unlikely from accumulated knowledge and experience; long continued irritation is known to be a factor. The appearance of cancer within the irritated scar of a long previous burn is a not infrequent concomitant and the association seems definite when such an alteration appears within the edges of a chronically infected, slowly healing lacerated wound. "One of the chief difficulties in the estimation of the frequency of traumatic cancer is the uncertainty of the statements of the interested patients." (Dr. Ewing).

It must be ascertained that previous to the injury the skin or organ was normal and not the seat of chronic inflammation or perhaps of a pre-cancerous lesion. Cancer does not follow immediately upon any injury and probably never after a clean incision. When foreign bodies such as chemicals or tar are carried into the wound and healing is long delayed then we have a more likely background for the future appearance of malignancy. If an advanced tumor is found shortly after such an injury we can assume its previous existance or if a new growth of a known cause or variety, such as a melanosarcoma, is discovered we would have to rule carefully out augmented susceptibility due to previous influences or in the latter instance the presence of a pigmented mole at the site of trauma. Injury may bring to light a hitherto unsuspected cancer particularly in the skeleton when a minor accident produces a fracture, often of a large bone.

Aside from the question of the causation of tumors, injury may occasionally lead to aggravation of a condition known to have been present. This may occur by predisposing to superimposed infection or by the dissemination of a tumor relatively localized either by the opening up of blood channels or, in the case of an encapsulated tumor, by rupture and subsequent new implantation. It must always be ascertained whether the injury was directly in the location of the subsequent disease. If trauma has been a causative agent in any given instance for the origin or spread of cancer the anatomical relationship between the injury and the tumor must be direct, not remote. A slight or trivial injury in locations known to be the usual seat of cancer, should have little consideration in determining causal relationship. This fact is of especial significance for such exposed organs as the breast and testicle.

"The rapid increase in the number of known cancerigenic agents and the advance in knowledge of the conditions under which tumors ordinarily develop account adequately for the great majority of tumors and restrict greatly the possible scope of the traumatic origin. When such an agent or condition is detected, a presumption is established that the tumor is caused by it and not by the trauma. . . . The presence of an unsuspected tumor tends to bring about injuries to the tumor bearing area and to intensify the subjective symptoms and local effects of the injuries." (Dr. Ewing)

LYMPHOGRANULOMA INGUINALE

The recognition of a "fourth" venereal disease has been crystalized during the past few years from a mass of accumulated evidence. The role of inguinal lymphogranuloma in the production of inflammatory stricture of the rectum has been definitely established. The "Frei" test has been devised for its identification, and by means of this important aid many previously unclassified cases have been placed into this category. During the past year the New York Department of Health has included the condition among the reportable communicable diseases.

A transitory initial genital lesion may make its appearance; it is negative on dark field examination for the spirocheta pallida of syphilis. There is subsequently chronic enlargement of the inguinal lymph nodes which are extremely resistent to the usual methods of treatment and until very recently their correct diagnosis was often left in doubt since they did not exhibit the diagnostic findings for conditions already familiar to physicians.

It is only within recent years that we have begun to learn to correlate with this long previous primary condition such lesions as non-cancerous stricture of the rectum in women, occasionally also occurring in men, and chronic inflammatory conditions within the female pelvis, at times associated with rectovaginal fistula and which had been previously assigned to other causative agents. These are now classified as the terminal stage of the genito-anorectal syndrome of inguinal lymphogranuloma.

The cause of lymphogranuloma inguinale is a filterable virus which can be transferred to several of the lower animals (monkeys, rabbits, white mice, guinea pigs). The diagnosis has been greatly aided by the use of a specific intradermal test. Pus from a suppurating lymph node is removed asceptically, diluted and sterilized. An intradermal injection of 0.1 cc is made and the reaction is read in 48 hours. If the test is positive it will show a red papule at least 0.5 cm in diameter. This allergy of the skin apparently persists through life of a previously infected person. The microscopic pathological appearance resembles somewhat that of tuberculosis. One finds specific granulation tissue with areas of necrosis walled off by palisades of epitheloid cells. An occasional multinucleated giant cell of the Langhans variety is encountered. Treatment is not entirely satisfactory. The use of intravenous injections of solution of antimony and potassium tartrate, and similar related substances, has given the most beneficial results.

EXPERIMENTAL ARTERIOSCLEROSIS

Aside from certain specific diseases, such as syphilis and rheumatic fever whose effects upon the vascular system of man are fairly well recognized, we do not at the present time have precise knowledge as to the cause of arteriosclerosis in general. In patients of advanced years we have become accustomed to accept the process as the end result of arterial "wear and tear" since it is so often found in its maximum development at points of increased intravascular tension, such as at the bifurcation of the aorta. When the disease is found in extensive distribution in relatively young individuals the problem of its elucidation becomes one of greater concern particularly when the process involves the coronary arteries of the heart and results in the closure of one of these vessels producing either sudden death or serious invalidism. We have been confronted with this latter serious complication in an apparently increasing incidence during the past decade.

The presence of fatty substances within the lesion has long been recognized and the designation of the term atherosclerosis to this variety of arterial alteration resulted because of its peculiar "mushy" consistence. Following the deposition of fatty acids and cholesterol, calcification often ensues within such an area of the vessel wall. Because of this constant association of fats, the possibility of finding an underlying metabolic disorder as a cause led to dietary methods in experimental animals in an attempt to reproduce the disease.

This problem has received the attention of a number of investigators during the past few years. Dr. Timothy Leary of Boston has become convinced of the metabolic nature of the disorder. He has had abundant opportunity to study the disease in humans of all ages from the autopsy material coming to him as Medical Examiner. He concluded that the lesion of human atherosclerosis can be reproduced in the rabbit by the feeding of cholesterol. His comparable illustrations of the process in man and in his experimental animals are strikingly similar. He concludes that a diet rich in cholesterol-containing foods, such as butter, cream and eggs, may be a predisposing factor for atherosclerosis in human beings. He finds an analogy in patients with diabetes treated during the regime when diets high in fats were in vogue. There had been noted a striking rise in the incidence of arteriosclerosis in such patients in all age groups. Recent reports where the low fat, higher sugar diets have been adopted show that this incidence of arterial disease no longer obtains.

The cholesterol feeding experiments have been carried out during many years by numerous men and it had been concluded that in only two species, rabbit and guinea pig, could the unequivocal arteriosclerosis be produced. The lesion found in the arteries of pigeons, chickens, parrots, mice, rats and goats following cholesterol feeding do not occur with any constancy. (Quoting from the report of Dr. G. L. Duff, Baltimore). All attempts to produce lesions in the arteries of cats, dogs, foxes and monkeys by feeding cholesterol-rich diets have been entirely without success. We cannot therefore assume without reservation that the disease in humans is predisposed by diet alone. This is contrary to our general impression, we have many times encountered an advanced degree of generalized or coronary arteriosclerosis in patients who are not accustomed to diets high in fat or who had been alcoholics. We are also familiar with conditions associated with a striking increase in the blood cholesterol, genuine lipoid nephrosis in children, in whom complete autopsy examination failed to disclose any degree of arterial damage. The advanced form of human arteriosclerosis is not accompanied by a hypercholesterolemia.

In addition we can further contrast the condition by the difference in the distribution of the disease in the experimental animal and in the human. In the rabbit, the pulmonary artery and its branches are affected to a degree proportional to the severity of the lesion in the aorta, while in man this vessel is usually spared even though the process might be far advanced within the aorta. The cerebral and retinal arteries are said not to be affected in the experimental animal, in man the involvement of these vessels is a very frequent concomitant to the process. In the human being, in contrast with the rabbit, cholesterol is a normal constituent of the diet. It is not improbable that the feeding of this substance may cause an initial local arterial lesion in the rabbit, so important for the subsequent development of the advanced process with the continued cholesterol feeding. It does not as yet seem logical to alter our dietary habits for the prevention of this disease from the facts which have so far been brought to light.

SURGERY

By Frank L. Meleney

Assistant Professor, Columbia University

PROGRESS IN SURGERY

As has been said in previous summaries, a year is too short a time to be sure that a given scientific discovery is going to stand the test of time. Only those which have been significant over a period of five or ten years or more can be called truly great. In certain fields of surgery, however, each year shows a little progress which is worthy of note. These fields are anesthesia, ductless glands, peripheral vascular disease, surgical infections, and cancer (particularly of the breast and lung).

ANESTHESIA

Avertin.—The use of avertin as a basal anesthetic is steadily growing in popularity both with surgeons and with patients. The natural dropping off to sleep is eminently satisfying to the patient and eliminates much of the fear of the preliminary preparation for operation. It also carries the patient through the post-operative period with a minimum of discomfort, and a loss of memory of whatever discomforts he seems to have. Occasionally operations can be performed under avertin without the addition of any inhalation anesthesia, but if this is required, it can be reduced to a minimum and still produce complete surgical relaxation. Avertin continues to be an almost indispensable drug in the treatment of tetanus, for it minimizes spasm, prevents convulsions and can be given repeatedly with a minimum of untoward results.

Spinal Anesthesia.—The dangers of spinal anesthesia are gradually being better understood and, therefore, minimized. Pantocaine continues to grow in popularity because of its prolonged effect covering a period of 4-5 hours which permits the conclusion of almost any surgical procedure. The danger of respiratory inhibition, which is probably due to an extension of the effect to the upper segments of the cord, has been minimized by determining the relative specific gravity of the pantocaine and spinal fluid and by the appropriate tilting of the table. This may be further controlled by using a heavy medium for the suspension of the pantocaine which will render wide diffusion impossible. Under certain conditions it is possible to localize the effect to one or the other side of the cord for operations on limited fields such as a single extremity. It must be kept in mind by both the profession and the laity that spinal anesthesia is not safe except in the hands of the experienced administrator with the help of a competent observer who can watch the course of events during the subsequent operation and who can suggest the use of supplementary medication if and when indicated.

Cyclopropane.—This gas is gradually increasing its field of usefulness as more and more anesthetists become experienced in its use. While its margin of safety is narrower in some respects than certain other inhalation anesthetics, its chief safeguard is that it permits the administration of large percentages (80-85%) of oxygen.

Evipan.—During the last two or three years there has been a gradually increasing use of this barbituric acid derivative for the induction of general anesthesia for short operations. It is given intravenously in a 10% solution in distilled water and administered at the rate of 1 cc. every 10-15 seconds. Within a minute the patient quickly falls off to sleep in complete surgical relaxation. In the second minute the medication is given a little more slowly for a total of 7 to 10 cc. Anesthesia lasts for 20-30 minutes and the patient wakens promptly without nausea and with practically no untoward after-effects. The recent intake of food does not contra-indicate its use and food can be taken again soon after recovery. Its lethal dose is four or five times the anesthetic dose which would seem to offer a fairly wide margin of safety. It has frequently been used daily for painful dressings over a long period of time. For any procedure which lasts longer than the ordinary duration of evipan there is no contra-indication to repeating the dose or giving an inhalation anesthetic. The drug is apparently rapidly destroyed in the liver and the only contra-indications to its use are conditions of liver damage or extensive upper respiratory infections.

SURGERY OF THE DUCTLESS GLANDS

Thyroid.—The employment of total extirpation of the thyroid gland in cases of agina pectoris and congestive heart failure is gradually and cautiously being extended. Those who originally worked in this field report increasingly favorable results as their experience in operative technique, and particularly in the careful selection of proper cases, improves. Their best results have been obtained in cases of angina pectoris where approximately 90% of their cases have been greatly improved. They do not expect very satisfactory results when the patients show no response to medical treatment or when the basal metabolism is minus 20 or below, or when there has been a previous attack of coronary thrombosis.

Encouraging reports continue to be made of progress in grafting thyroid and parathyroid tissue from one animal to another of the same species including man. Such heterologous grafts, however, can only be made successfully if they have been grown in tissue culture under sterile precautions in the presence of the recipient's serum or plasma. Then after a period of two or three weeks the grafts are planted in the loose areolar tissue of the axilla or groin of the recipient. Attempts have been made to apply this technique to the transplantation of other ductless glands but its success or failure can only be determined after a longer period of observation.

The transplantation of whole organs is brought into the realm of possibility by a greater understanding of the growth requirements of these organs when kept alive and functioning for long periods of time outside of the organism.

Parathyroid and Pancreas.—Further successes have been obtained in cases of hyperparathyroidism and hyperinsulinism by the removal of adenomata of the parathyroid and pancreas respectively. A more widespread knowledge exists than heretofore of the clinical manifestation of these abnormal hyperactivities and cases are coming much earlier than before to the surgeon for relief which he alone can give.

Suprarenals.—The theory that essential hypertension is due primarily to an over-activity of the adrenal glands is gaining added support by the effect of removal of a major portion of the suprarenals or a cutting of the sympathetic nerve supply to these organs. Temporary and at times prolonged falls of blood pressure to normal frequently follow these procedures while still greater and more permanent results are obtained by cutting the anterior roots of the segments of the cord supplying the nerves to these glands and to the general splanchnic area. The latter operation has the disadvantage of producing a more or less profound relaxation of the abdominal wall musculature which may more than affect the advantage gained as far as the patient's comfort is concerned. This new field must be explored further and the results tested over a long period before these procedures can be established as a significant step in surgical progress.

PERIPHERAL VASCULAR DISEASE

The chief advance made during the past year in this field has been the more widespread use of the principle of passive vascular exercises. This simply means an alternating positive and negative pressure in a glass or celluloid boot into which the affected member is placed for several hours a day. Just how great a factor this will be in the improvement or preservation of existing circulation or the development of a collateral circulation will require the accumulation of a vast amount of clinical experience but the results seem to be encouraging and they should be carefully controlled by all of the objective methods of testing improvement both in treated and in untreated cases.

SURGICAL INFECTIONS

Hemolytic Streptococcus Infections.—The serum treatment of streptococcal infections has been frankly disappointing in the past because of the difficulty or impossibility of developing real protective antibacterial antibodies by any method of vaccination yet devised. The body of animals seems to be incapable of developing an immunity against the hemolytic streptococcus or of developing any substance which can be transferred in the blood serum from one person to another or from an animal to a human being. Certain antitoxic sera have been produced but they have been of little, if any, effect against the invasive properties of the organism. Recently, however, methods have been refined for determining whether or not an individual has by inheritance, or has developed by a later acquisition by natural contact with the organism, antibodies in his blood which favor the activity of the white cells in their destruction of the organism. The selection of such individuals as transfusion donors offers some hope of a favorable response on the part of the patient. Such results as have been reported must be confirmed and repeatedly obtained in a large series before we can be sure of the significance of these recent tests.

Bacteriophage.—The commercial exploitation of this therapeutic principle has resulted in a fairly widespread use of bacteriophage, but without a laboratory check-up both for activity of the phage against the causative organism and for potency, the clinical results will have to be judged with extreme caution. However, each year has contributed something to the knowledge of the indications for its use as well as the limitations of its usefulness. Its most consistently favorable results continue to be obtained in superficial staphylococcus infections and in the B. Coli infections of the urinary tract.

Zinc Peroxide in the Treatment of Anaerobic and Microaerophilic Infections.—During the past year there have been increasing opportunities to demonstrate the efficacy of this chemical oxidizing agent in these infections. It has been found that the physical state of the medication is of prime importance and that only when it is in an amorphous state in which it suspends as a flocculent curd in distilled water will it give off oxygen actively enough to inhibit the growth of the anaerobic organisms in the tissues. When it has become better standardized, it offers great hope of wide usefulness in these important types of infections as well as in hemolytic streptococcus infections of all kinds.

CANCER

Breast Carcinoma.—During the past year the chief advance in this field has been the greater appreciation of the importance of combining surgery and radiotherapy in the treatment of these cases. Whether ante-operative or post-operative radiotherapy is best is still a matter of great debate which can only be settled by the accumulation of more data but it is expected that the results of treatment in this particular form of cancer will continue to improve.

Lung Carcinoma.—The gradual improvement and accumulated experiences of a large number of surgeons in thoracic surgery in conditions such as tuberculosis, lung abscess and bronchiectasis have favorably affected the treatment of lung cancer. Cases have been better classified than heretofore from the point of view of operability and the technique of lobectomy or total pneumectomy has been developed to such a state that we may look forward with some confidence to an improvement of results in this difficult and formerly universally fatal field of surgery.

PUBLIC HEALTH AND HYGIENE

By Ira V. Hiscock

Professor, Yale School of Medicine

PUBLIC HEALTH AND SOCIAL SECURITY

The effects of the depression on public health and on health budgets were emphasized in these columns last year. The importance of public health protection as an element in national security was recognized in 1935 when in August President Roosevelt approved the Social Security Act, the purpose of which is: "To provide for the general welfare by establishing a system of federal old-age benefits, and by enabling the several states to make more adequate provision for aged persons, dependent and crippled children, maternal and child welfare, public health, and the administration of their unemployment compensation laws; to establish a Social Security Board; to raise revenue; and for other purposes.''

While every feature of the Act may have some relation, directly or indirectly, to the public health, specific provision is made for annual grants through the U. S. Children's Bureau to the states and territories for maternal and child welfare including assistance in the maintenance of maternal and child health services ($3,800,000), care of crippled children ($2,850,000), besides child welfare services and vocational rehabilitation. Under the Public Health Work Title of the Act, authority is granted for: 1. An annual appropriation of not to exceed $8,000,000 for the purpose of assisting states, counties, and health districts and other political subdivisions of the states (and territories) in the establishment and maintenance of adequate health services, including the training of personnel for state and local health work, and 2. An annual appropriation of not to exceed $2,000,000 to the U.S. Public Health Service for research activities of the Service and for the expense of cooperation with the states in the administration of the Federal funds to be granted for aid in the establishment and maintenance of state and local health services.

Responsibility for allotment of the proposed appropriation for state and local services is placed upon the Surgeon General of the Public Health Service. This significant development aims to stimulate a comprehensive, nation-wide program of public health, financially and technically aided by the Federal Government, but supported, so far as possible, and administered by states and local communities. (Union Calendar No. 186, 74th. Congress, 1st session, H.R. 7260, report No. 615. See also: Public Health at the Cross-roads, E. L. Bishop; Economic Health and Public Health Objectives, Josephine Roche; The Social Security Act in its Relation to Public Health, *Amer. Jour.* P.H., Vol. 25, No. 11, Nov. 1935; and National Aspects of the Social Security Act as they Pertain to the Children's Bureau, Katharine E. Lenroot, *Amer. Jour.* P.H., Vol. 25, No. 12, Dec. 1935.)

ADMINISTRATIVE HEALTH PROGRESS

In recognition of 15 years of service of the Committee on Administrative Health Practice, and as a means of reviewing progress and of exploring future opportunities, the American Public Health Association devoted a special session at its 64th annual meeting to this program of activity. Whereas 15 years ago there was a striking lack of authentic information in regard to the practice of health departments, a health officer may now review his problems and program in the light of experience in other communities and apply measuring rods to the appraisal of local services. Exhaustive studies have stimulated the development of comprehensive health programs, influenced the formulation of modern standards of health practice, demonstrated the value of trained public health personnel, and focussed attention on qualitative as well as quantitative results. The U. S. Chamber of Commerce Health Conservation Contests, in which the Committee has participated, have aroused the interests of business and industrial leaders as well as professional workers in the importance of a sound community health program for both the urban and rural areas. (Fifteen Years of the Committee on Administrative Practice, *American Journal of Public Health.*, Vol. 25, No. 12, Dec. 1935).

CHILD HEALTH

Twenty-seven years ago there was no organization in the United States with the sole purpose of promoting the health of the child. The American Association for the Study and Prevention of Infant Mortality was organized in 1909 and later merged with the Child Health Organization of America in the formation of the American Child Health Association. The policy of this organization has been to stimulate interest in the various phases of child health in order that they might be recognized and taken over by other official or voluntary agencies. At the annual meeting in 1927, the General Executive expressed the expectation and hope that the time would come when health knowledge would be so widely interpreted to the people and the promotion of health so efficiently carried on by the medical profession and health services of the government that there would no longer be a productive field of operation for an independent organization of this character. Much has been done in the elevation of standards of child health service, in the improvement of milk supplies, and in the development of child health education. Child health has come to occupy a prominent place in the program of most organizations interested in public health. With the formation of plans to allocate specialized services still being carried by the American Child Health Association to other appropriate agencies, the organization discontinued its activities and dissolved in August, 1935, having rendered notable service in a significant period in the nation's history.

In the school health field there has been a growing interest in the examination of children for tuberculosis with provision of appropriate care for cases. After a lapse of many years, a revival of interest is noted in the teaching of hygiene to high school pupils. A law of some significance was passed in Vermont which authorizes school boards to: ''Expend annually not to exceed 3 per cent of the school budget for such health service activities as may be necessary to provide for the improvement of the physical efficiency of school children of indigent parents. Expenditures for this purpose may include purchase of milk for undernourished children, ingredients for hot lunches, glasses, dental service, the removal of tonsils, and other health services which are approved by the town health officer and the teacher or public health nurse.''

In school health instruction, there has been a tendency to make the programs more substantial and scientific. A preliminary study conducted under the direction of a joint committee of educational and medical leaders revealed group opinions relating to certain school health policies. The committee endeavored to ascertain from various groups of physicians, public health workers, parents and educational administrators what they considered to be the function of the school in the health program, and to locate responsibility for the health of the child. Among other observations, opinion in general was favorable to trained personnel, health education, and health examinations, but it was recognized that communicable disease control is not a problem for schools to attack independently. School authorities are held responsible in the report, by a three fourths' vote of opinions, for obtaining periodic physical examinations of pupils and teachers. On treatment in school, other than emergencies, the trend of opinion was reported as strongly negative. Favor was expressed for seeking advisory service on general school policies and in relation to individual pupils from three local sources: school health workers, local public health authorities, and local professional groups, chiefly medical and dental associations. Emphasis was given to the usefulness of community health councils, committees of County Medical Societies on School Health, and Committees of Parent-Teacher Associations on Child Health. (School Health Policies, prepared and published under the direction of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, 1935.)

NEIGHBORHOOD HEALTH SERVICES

The decentralization of public health work in order to bring it closer to the people on a district or neighborhood basis is a movement of the past two decades in large cities and counties, but received additional impetus during the past two years, especially in Baltimore and New York. The modern conception of a district health center visualizes a community agency engaged primarily in preventive medicine and public health education, centering in an organization of physicians, nurses, and other health and social workers, and volunteers. It aims to reach all people within a district who need the services, to supplement the services of private physicians, and to coordinate the health and sometimes the medical, recreation, and social service activities. (The Development of Neighborhood Health Services in the United States, Ira V. Hiscock, *The Milbank Memorial Fund Quarterly*, January, 1935, and *Health Department Bulletins* of Baltimore and New York.)

NUTRITION

The importance of Vitamin B in clinical work was emphasized by Cowgill in 1934 in a comprehensive discussion of the Vitamin B Requirement of Man. Data were presented to show the Vitamin B contents of various foods used by man which are helpful in evaluating any given diet for content of this Vitamin. Vorhans and his associates have since reported successful use of crystalline Vitamin B in the treatment of numerous conditions. From studies of minimum Vitamin A requirements, it appears that the need of organisms for this factor is closely proportional to the body weight. This line of study may be of service in estimating the human requirement for this important dietary factor.

(George R. Cowgill, The Vitamin B Requirement of Man, *Yale University Press,* Dec. 1934 and June 1935; Vorhans, J., *Am. Med. As.* Vol. 105, Nov. 16, 1935, p. 1580; Guilbert and Hart, Minimum Vitamin A Requirements, *Jour. Nutrition,* Vol. 10, p. 409, Oct. 1935).

PASTEURIZATION OF MILK

For many years the value of pasteurization as an added safeguard for milk has been stressed by public health authorities and leading pediatricians. The effect of pasteurization on the food value of milk has been reported as too slight to be apparent even in specially designed experiments or in observations on children living under ordinary American conditions. The American Medical Association, through a resolution adopted in 1929, supported the efforts of public health authorities to provide safe milk for human consumption. This resolution by implication endorsed pasteurization, which had been strongly favored by the American Child Health Association, the American Public Health Association and the Conference of State and Provincial Health Authorities of North America. Direct endorsement of pasteurization is embodied in a decision of the American Medical Association Committee on Foods.

An important and far-reaching event in the progress of certified milk, and of milk sanitation generally, was the approval given to permissive pasteurization by the American Association of Medical Milk Commissions and the Certified Milk Producers Association of America, meeting jointly at Atlantic City in June, 1935. Following a remarkable program of papers devoted to this topiç, the former Association voted unanimously to include in its Methods and Standards, definitions and specifications for Certified Milk—Pasteurized. (Report of Committee on Food Value of Milk and Milk Products, International Association of Dairy and Milk Inspectors, 1935.)

VITAL STATISTICS

A reorganization of the Division of Vital Statistics of the U. S. Bureau of the Census has provided new supervisory personnel in charge of each of three important functions. The chief statistician has direct charge of research and analytic developments; the assistant chief statistician has charge of the development and perfection of registration and of relations with state health officers and registration officials; the chief statistician of the newly established Division of Religious Statistics, General Information and Records will, among other duties, further public information and public relations. Extension of population studies and refinement of crude vital statistics figures by correction for residence, now that the entire United States is included in the Registration Area, are among the progressive steps under way. The American Public Health Association, through the Vital Statistics Division, at the 1935 annual meeting, endorsed a plan to delete from the birth certificate reference to the legitimacy of the child. ("Development of Vital Statistics in the Bureau of the Census," Halbert L. Dunn, *Amer. Jour. P.H.*, Vol. 25, No. 12, Dec. 1935.)

SOCIAL HYGIENE

Interest in social hygiene continues to increase, together with measures for the prevention of venereal diseases. Progress in Sweden as reported recently is stimulating. Syphilis has become a rare disease in Sweden through application of the principles of venereal disease control first embraced in comprehensive legislation in 1919. These include compulsory treatment of infected persons, free medical and hospital care, notification of cases without name, notification of sources to one health officer in each county or city, certain compulsory measures against persons who are sources or may have discontinued treatment, persons suffering from venereal disease in an infectious stage prohibited from marrying or transmitting infection, cost of venereal disease control borne by the central government. The right to treatment is accorded as long as the disease is in the infectious stage. ("The Prevention of Venereal Diseases in Sweden," Einar Rietz, *Amer. Jour. P.H.*, Vol. 26, No. 1, Jan. 1936; and "Growing Interest in the Family and Social Hygiene," *Jour. Soc. Hyg.*, Vol. 21, Nos. 7-9, 1935.)

MENTAL HYGIENE

Dementia Praecox Campaign.—One of the highlights of mental hygiene progress during 1935 was the launching of a campaign against dementia praecox, most prevalent of all forms of mental disorders under institutional care. A fund of $40,000 was appropriated by the Supreme Council, 33°, Ancient Accepted Scottish Rite, Northern Masonic Jurisdiction, U.S.A., to finance the campaign in its opening phase, which will seek, as its first objective, to develop a better understanding of the nature and causes of this obscure disease. The National Committee for Mental Hygiene is using this fund to subsidize research projects in various parts of the United States.

The program will be undertaken on a wide front and the best minds in the medical, psychological, biological and social sciences are being enlisted. Laboratories, hospitals, clinics, universities and other scientific centers in ten cities and seven states have been selected as the scene of action during the next 12 months, in which 17 of the leading investigators of the country and their staffs will grapple with various research problems. The plan of study embraces the whole life span and will cover as many aspects of the individual as are accessible to observation and experimentation, each research project being related to every other as part of a coordinated whole.

Psychiatric Education in Medical Schools.—A long stride has also been made during the past year in the promotion of psychiatric education in the medical schools, another fundamental problem in mental medicine. Between 25 and 30 medical schools are giving reasonably adequate instruction in psychiatry, as compared with the 14 schools found in this class in an appraisal in 1932, when this phase of work was undertaken in a systematic way, and several other schools are working toward a reorganization of their psychiatric programs along standard lines. At least 35 teachers of psychiatry have been added to medical school faculties during the past school year, and further additions are expected.

There is a trend toward the establishment of pre-clinical foundations for psychiatric teaching, and progress is in evidence in the incorporation of psychobiology and other basic subjects in the medical school curriculum, the improvement of clinical and outpatient training, increase in hours devoted to psychiatry, and extension of psychiatric teaching through the entire four-year period. Special efforts are being made to develop post-graduate teaching in psychiatry as an essential aspect of interne training and as a requirement for licensure, on the assumption that psychiatry is a fundamental phase of basic general medical training and practice.

Health Workers and Mental Hygiene.—It is encouraging to note, in this connection, the increasing interest in mental hygiene among public health workers, as reflected at the last annual convention of the American Public Health Association. The discussion centered on the development of a practical plan for the integration of organized mental health work in national, state and local public health programs, and the training of health officers to this end. Mental hygiene is being recognized as an essential part of public health practice. Of collateral interest are certain other developments in professional education in mental hygiene, which depends for its effectiveness on the collaboration of psychologists, social workers, educators, and other trained non-medical personnel in various fields. Among them should be mentioned the activities of the Council for the Clinical Training of Theological Students, which is instructing a selected group of qualified students from recognized theological seminaries in case work with patients in hospitals and clinics, to prepare them for a better understanding of mental maladjustments and related human problems met with in pastoral work. Such training under psychiatric direction is being given in 12 centers, including mental and general hospitals, child guidance clinics, state prison systems, etc.

U. S. Narcotic Farm.—Another notable event was the opening of the first United States Narcotic Farm by the Public Health Service at Lexington, Kentucky, on May 25. This unique institution, designed to care for more than half of the approximately 1,800 narcotic-drug addicts in Federal prisons, represents a new departure in the government's policy toward the country's drug-addiction problem, and is in the nature of a long-term experiment in the mental and moral, as well as physical rehabilitation of the drug addict. It is a venture in specialization bearing a functional relationship to policies of law enforcement, problems in penal and correctional procedure, the safeguarding of the uses of narcotic drugs in medical practice, and the quest for more accurate and fundamental knowledge concerning the nature of drug addiction; in short, a treatment and research center, with an educational, industrial and vocational rehabilitation program and with certain custodial features superimposed. A second institution will be established later at Fort Worth, Texas, for the treatment of the more tractable types of drug addicts who do not require the same degree of supervision and custody.

Child Psychiatry.—During the past year there has been unabated progress in the development of child psychiatry. Child guidance clinics have increased in number to a degree that compares favorably with, if it does not surpass, the record of any previous year. Three new units have been provided for the New York City public schools. The out-patient clinic program at the Michael Reese Dispensary in Chicago, dealing with both adults and children on a high plane, was enlarged. The clinic in Dayton, Ohio, previously functioning 14 hours a week of psychiatric time, was extended to full time. The extramural travelling clinic of the Trenton State Hospital was established on a full-time basis, and a half-time unit was set up in Buffalo. In Nashville, a clinic unit has been established at Vanderbilt University to provide service to three adjacent counties. None of the larger clinics has been discontinued.

In addition to the above child guidance programs, psychiatric services have been provided to a number of family welfare agencies, and psychiatric social workers have been added to these staffs. The Richmond (Virginia) Family Service Society has established a full-time psychiatric unit in close functional proximity to the existing child guidance clinic. Also, psychiatric services have been increased in pediatric departments, both on a service and staff development basis, and there is evidence of growth in the scope of pediatrics to include more and more responsibility for the psychiatric aspects of that field. These developments have necessarily produced some changes in the scope and administrative relationships of existing child guidance clinics. There is a tendency toward the division of labor in community organization along technical lines and a consequent centralization of psychiatric services. There has also resulted a shortage of personnel in both psychiatric and psychiatric social work groups. To meet the former, the Commonwealth Fund has provided additional fellowships. (Data supplied by the National Committee for Mental Hygiene, New York.)

PUBLIC HEALTH BOOKS

Among the outstanding publications of the year are at least three deserving of special mention. The need for an authoritative yet concise and well balanced source of information to orient the student in the field of public health and to give the philosophy and broad perspective necessary for a proper understanding of the modern program is admirably met by Mustard's *Introduction to Public Health.* Many of the administrative principles of public health, with a description of their application in the various units of government, are presented in *Public Health Administration in the United States* by Smillie whose section on Epidemiology is especially noteworthy.

Effective health work rests upon an efficient record-keeping system, sufficiently standardized to facilitate state-wide and nation-wide collection and analysis of statistics and to enable a local health officer to study the experience of his district in comparison with that of similar areas. *Recording of Local Health Work* by Walker and Randolph is a valuable manual for the health administrator, and has already aided in the development of uniform record procedures in several states. Based upon extensive experience and sound practice, the book is carefully prepared and well printed. (An *Introduction to Public Health,* Harry S. Mustard, The Macmillan Company, New York, 1935, 250 pp.; *Public Health Administration in the United States,* Wilson G. Smillie, The Macmillan Company, New York, 1935, 458 pp.; *Recording of Local Health Work,* W. F. Walker and Carolina R. Randolph, The Commonwealth Fund, New York, 1935, 275 pp.)

VITAL STATISTICS

By Halbert L. Dunn

Chief Statistician for Vital Statistics, U. S. Bureau of the Census

REGISTRATION

With the completion of the birth registration area in 1933, by the admission of Texas, the scope of birth and death statistics has been extended throughout the entire continental United States. By the use of funds from the Federal Emergency Relief Administration, surveys of birth registration were conducted in 24 states: Alabama, Arkansas, California, Colorado, Georgia, Idaho, Iowa, Kansas, Mississippi, Missouri, Montana, Nevada, New Hampshire, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Utah, Vermont, Washington, West Virginia, and Wyoming. The objects of these surveys were two: A test of the completeness of birth registration in the states, and the education of the public concerning the importance of birth registration. Both of these purposes have been accomplished.

REGIONAL CONFERENCES

Five regional conferences with State Registrars were held during 1933-1934. Round table conferences concerning the completeness and accuracy of the birth and death certificates, the classification of causes of death, the compilation and distribution of statistics, and the coordination of statistical work with public health activities were the principal subjects discussed. The conference was a great help to the registrars and served to promote a better understanding among them.

NATALITY AND MORTALITY, BY STATES; 1934

Area	Continental United States							
	Live Births		All Deaths		Deaths Under 1 Year		Still Births	
	Number	Per 1,000 Estimated Population	Number	Per 1,000 Estimated Population	Number	Per 1,000 Live Births	Number	Per 1,000 Live Births
UNITED STATES	2,167,636	17.1	1,396,903	11.0	130,185	60.1	78,503	3.6
Alabama	63,495	23.4	29,361	10.8	4,303	67.8	3,156	5.0
Arizona	8,492	18.6	5,647	12.4	879	103.5	232	2.7
Arkansas	37,515	20.0	16,888	9.0	2,029	54.1	1,341	3.6
California	78,346	12.7	68,095	11.1	4,050	51.7	1,881	2.4
Colorado	17,849	16.9	12,497	11.8	1,298	72.7	572	3.2
Connecticut	22,215	13.4	17,438	10.5	1,085	48.8	624	2.8
Delaware	3,988	16.5	3,354	13.9	245	61.4	135	3.4
Dist. of Columbia	10,137	20.4	8,274	16.6	662	65.3	384	3.8
Florida	26,716	17.0	20.357	12.9	1,821	68.2	1,568	5.9
Georgia	64,661	22.2	35,580	12.2	5,099	78.9	3,836	5.9
Idaho	9,373	20.9	4,377	9.8	471	50.3	211	2.3
Illinois	110,226	14.0	87,205	11.1	5,825	52.8	3,333	3.0
Indiana	52,349	15.8	40,650	12.3	2,960	56.5	1,400	2.7
Iowa	42,463	17.1	26,758	10.8	2,149	50.6	1,142	2.7
Kansas	32,463	17.0	19,951	10.5	1,574	48.5	861	2.7
Kentucky	59,904	22.5	30,148	11.3	3,887	64.9	2,010	3.4
Louisiana	43,003	19.6	23,254	10.7	2,971	69.1	2,072	4.8
Maine	15,760	19.6	10,937	13.6	1,112	70.7	557	3.5
Maryland	27,340	16.4	20,946	12.5	1,924	70.4	1,584	5.8
Massachusetts	63,828	14.7	50,580	11.7	3,125	49.0	1,972	3.1
Michigan	83,925	16.5	50,442	9.9	4,364	52.0	2,627	3.1
Minnesota	45,921	17.6	26,570	10.2	2,168	47.2	1,295	2.8
Mississippi	47,863	23.3	21,832	10.6	3,102	64.8	2,221	4.6
Missouri	59,185	16.1	46,639	12.7	3,735	63.1	2,270	3.8
Montana	9,949	18.5	5,617	10.4	532	53.5	244	2.5
Nebraska	25,085	18.0	13,372	9.6	1,141	45.5	639	2.5
Nevada	1,434	15.3	1,297	13.8	85	59.3	46	3.2
New Hampshire	7,869	16.7	6,397	13.6	478	60.7	242	3.1
New Jersey	54,541	12.9	43,819	10.4	2,678	49.1	1,972	3.6
New Mexico	12,769	29.2	6,115	14.0	1,613	126.3	417	3.3
New York	185,615	14.2	149,088	11.4	9,634	51.9	7,654	4.1
North Carolina	79,704	24.1	35,180	10.7	6,212	77.9	3,299	4.1
North Dakota	14,549	21.1	5,844	8.5	833	57.3	349	2.4
Ohio	100,100	14.6	77,101	11.3	5,379	53.7	3,277	3.3
Oklahoma	47,302	19.1	21,373	8.6	2,864	60.5	1,301	2.8
Oregon	13,077	13.2	10,540	10.6	521	39.8	312	2.4
Pennsylvania	160,238	16.3	109,601	11.2	8,812	55.0	5,624	3.5
Rhode Island	10,349	14.7	7,703	10.9	558	53.9	299	2.9
South Carolina	44,265	25.3	21,312	12.2	3,674	83.0	2,495	5.6
South Dakota	13,173	18.7	6,455	9.2	764	58.0	334	2.5
Tennessee	52,393	19.6	30,312	11.3	3,863	73.7	2,038	3.9
Texas	116,603	19.2	59,731	9.8	8,381	71.9	4,402	3.8
Utah	12,636	24.3	4,841	9.3	622	49.2	241	1.9
Vermont	6,593	18.3	4,878	13.5	347	52.6	217	3.3
Virginia	52,375	21.4	30,559	12.5	3,805	72.6	2,269	4.3
Washington	22,540	14.0	17,552	10.9	973	43.2	521	2.3
West Virginia	41,476	23.2	17,941	10.0	2,794	67.4	1,633	3.9
Wisconsin	51,419	17.1	30,399	10.1	2,542	49.4	1,305	2.5
Wyoming	4,565	19.7	2,096	9.0	242	53.0	89	1.9

NOTE—Birth and death rates are provisional.

REORGANIZATION OF THE DIVISION OF VITAL STATISTICS

Dr. Timothy F. Murphy, formerly chief statistician for vital statistics, was appointed chief statistician of a new division of Religious Statistics, and General Information and Records. His place was filled by Dr. Halbert

L. Dunn, experienced in the subjects of medicine, hospital administration and statistics. The position of assistant chief statistician was filled by Dr. John Collinson, experienced in medicine, public health work, and statistics.

A special advisory committee for the division was appointed by the Secretary of Commerce. This Committee greatly strengthens the division by making available consultation with distinguished national leaders in the subject of vital statistics. The Committee consists of Dr. Earle G. Brown, State Health Officer of Kansas; Dr. Robert E. Chaddock, Columbia University; Dr. Louis I. Dublin, Metropolitan Life Insurance Co.; Dr. Haven Emerson, Columbia University; Dr. Stewart G. Thompson, Florida Board of Health; Dr. R. C. Williams, United States Public Health Service, and Dr. Lowell J. Reed, Department of Biostatistics, School of Hygiene and Public Health, Johns Hopkins University.

BIRTHS AND DEATHS

A summary of births, deaths, and stillbirths by states and a table of death rates by principal causes for the registration area is appended. The death rate for the entire country in 1934 was 11 per 1,000 popula-

DEATH RATES PER 100,000 ESTIMATED POPULATION FROM PRINCIPAL CAUSES IN THE REGISTRATION AREA IN CONTINENTAL UNITED STATES, 1900-1934

CAUSE OF DEATH	1900	1901	1902	1903	1904	1905	1906	1907
All causes (ex. of stillbirths)	1,755.0	1,651.9	1,588.0	1,603.7	1,653.5	1,602.0	1,567.5	1,597.1
Typhoid and paratyphoid fever	35.9	32.3	34.3	34.1	31.7	27.8	31.3	29.5
Smallpox	1.9	3.5	6.6	4.2	2.1	0.9	0.2	0.2
Measles	12.5	7.3	9.5	9.8	11.0	7.5	12.1	10.0
Scarlet fever	10.2	13.1	12.6	12.2	10.8	6.7	7.7	10.0
Whooping cough	12.1	9.7	12.0	15.8	6.5	10.6	15.1	11.3
Diphtheria	43.3	34.0	30.8	31.7	28.3	23.6	25.7	23.6
Influenza and pneumonia (all forms)	203.4	193.6	165.8	173.6	191.6	167.7	155.8	179.9
Influenza	22.9	32.2	10.1	18.5	20.2	18.9	10.3	23.4
Bronchopneumonia(1)	21.9	28.4	31.7	33.5	36.6	34.1	37.3	39.2
Lobar pneumonia	158.6	133.0	124.0	121.6	134.8	114.7	108.2	117.3
Pneumonia, unspecified								
Erysipelas	5.1	4.6	4.2	4.0	5.0	4.4	4.2	4.3
Epidemic cerebrospinal meningitis	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Tuberculosis of the respiratory system	180.5	174.5	162.6	164.9	176.2	166.7	155.6	154.3
Other forms of tuberculosis	21.4	22.4	21.9	23.6	24.5	25.6	24.6	24.2
Malaria	7.9	6.3	5.4	4.3	4.2	3.9	3.4	2.7
Cancer and other malignant tumors	63.0	64.3	65.1	68.3	70.2	71.4	69.1	70.9
Diabetes mellitus	9.7	10.2	10.3	11.3	12.8	12.9	12.7	13.5
Cerebral hemorrhage and softening	71.5	72.2	72.0	72.0	75.2	74.7	73.1	76.1
Diseases of the heart(3)	132.1	132.6	137.7	143.0	153.4	152.2	148.4	159.7
Bronchitis	45.7	39.7	39.3	36.2	35.8	33.2	29.5	30.0
Diarrhea and enteritis(4)	133.2	113.5	105.0	101.0	110.6	115.7	120.0	113.3
Appendicitis	9.7	10.0	10.0	11.0	11.8	11.9	11.1	10.9
Hernia, intestinal obstruction(5)	12.2	12.6	12.5	13.0	13.3	13.6	13.6	13.3
Cirrhosis of the liver	12.9	13.6	13.9	14.5	15.1	14.7	14.5	15.4
Nephritis	89.0	89.3	90.9	97.3	103.1	103.4	97.5	102.4
Puerperal septicemia	5.7	6.0	5.7	6.1	6.9	6.8	6.2	6.8
Other puerperal causes	7.6	7.7	7.3	7.9	8.4	8.1	8.9	8.8
Congenital malformations and diseases of early infancy	91.8	80.7	82.9	86.2	90.8	89.3	91.7	92.7
Suicide	11.5	12.2	12.7	13.8	14.7	16.0	13.9	15.7
Homicide	2.1	2.3	2.3	2.6	2.8	4.5	5.0	6.3
Automobile accidents(6)	(2)	(2)	(2)	(2)	(2)	(2)	0.4	0.7
Automobile and railroad-train collision	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Automobile and street-car collision	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Other external causes	79.0	88.1	78.1	87.2	86.7	84.0	93.0	93.7
Unknown and ill-defined diseases	73.8	56.4	52.6	44.9	42.0	40.1	38.1	33.6

tion. The rates of accidents showed a marked increase for 1934. Traffic accidents have trebled in the past two decades, producing a grave situation which is causing public concern throughout the Nation at the present time.

NEW TABULATONS IN 1935

A number of new tabulations will be made of 1935 birth and death statistics. Chief of these is place of residence which is being coded for the entire country, in addition to the codes for place of death and place of birth. The tabulations for 1935 will include for the first time information on hospitals and institutions as the place of death, as well as special data on accidents and multiple causes of death. The numerous additional and valuable tabulations being released make it necessary to link the 1936 special reports into a unified series. These publications will be called *Vital Statistics Special Reports.* The *Special Reports* will be mailed to approximately 250 depository libraries in the United States, by which the reports will be filed, bound, and cross indexed. In this manner essential publication of many important tabulations will be achieved for the first time.

DISEASE CONTROL

Continued effectiveness in the control of communicable diseases, sharp increases in violent accidental deaths and the ravages of the measles and

CAUSE OF DEATH	1908	1909	1910	1911	1912	1913	1914	1915
All causes (ex. of stillbirths)	1,478.0	1,440.0	1,496.2	1,418.1	1,388.8	1,409.6	1,364.6	1,355.0
Typhoid and paratyphoid fever	24.3	21.1	23.5	21.0	16.5	17.9	15.5	12.4
Smallpox	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.3
Measles	9.9	9.6	12.3	10.0	7.0	12.8	6.8	5.4
Scarlet fever	11.9	11.4	11.6	8.9	6.7	8.7	6.6	3.6
Whooping cough	10.6	9.6	11.4	11.3	9.3	10.0	10.4	8.1
Diphtheria	21.5	20.4	21.4	18.9	18.2	18.9	17.9	15.7
Influenza and pneumonia (all forms)	152.2	150.7	162.1	149.6	142.7	144.8	136.4	149.1
Influenza	21.3	13.1	14.4	15.7	10.3	12.2	9.1	16.0
Bronchopneumonia(1)	35.8	41.3	47.1	44.5	47.1	49.2	48.9	49.9
Lobar pneumonia	95.1	96.3	46.4	48.2	49.7	51.6	56.1	65.8
Pneumonia, unspecified			54.3	41.1	35.6	31.8	22.4	17.4
Erysipelas	3.9	3.9	4.5	4.2	3.8	4.0	3.8	3.5
Epidemic cerebrospinal meningitis	(2)	(2)	0.4	0.9	2.4	1.9	1.7	1.4
Tuberculosis of the respiratory system	144.0	137.7	136.0	132.7	125.0	123.0	123.5	123.5
Other forms of tuberculosis	23.6	23.4	24.3	26.5	24.7	24.8	23.7	22.8
Malaria	2.4	2.3	2.2	3.0	3.1	2.5	2.2	2.3
Cancer and other malignant tumors	71.5	73.8	76.2	74.4	77.1	79.0	79.6	81.4
Diabetes mellitus	13.4	13.8	14.9	14.9	15.0	15.3	16.2	17.5
Cerebral hemorrhage and softening	71.7	73.9	75.7	76.5	77.5	76.5	79.6	81.2
Diseases of the heart(3)	148.8	151.4	158.8	157.1	159.9	155.8	159.7	165.7
Bronchitis	26.0	23.8	23.4	19.6	19.2	18.0	17.4	17.4
Diarrhea and enteritis(4)	111.6	103.2	117.4	91.2	84.1	90.3	79.6	72.1
Appendicitis	11.3	11.3	11.4	11.7	11.6	12.1	12.3	12.5
Hernia, intestinal obstruction(5)	12.8	12.6	12.4	11.9	11.9	11.6	11.7	11.3
Cirrhosis of the liver	14.3	13.8	13.9	14.0	13.5	13.4	13.0	12.6
Nephritis	93.7	95.2	99.1	97.7	103.2	103.0	102.6	105.1
Puerperal septicemia	7.0	6.7	7.2	7.4	6.5	7.2	7.1	6.3
Other puerperal causes	8.7	8.6	8.5	8.6	8.5	8.6	8.9	9.0
Congenital malformations and diseases of early infancy	90.4	87.5	88.1	93.2	95.4	98.5	95.5	92.1
Suicide	17.8	16.5	16.0	16.3	16.0	15.8	16.6	16.7
Homicide	6.4	5.6	5.9	6.6	6.6	7.2	7.4	7.0
Automobile accidents(6)	0.8	1.2	1.8	2.2	2.9	3.9	4.3	5.9
Automobile and railroad-train collision	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Automobile and street-car collision	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Other external causes	81.2	80.2	82.6	82.4	79.5	81.6	74.4	70.7
Unknown and ill-defined diseases	28.9	24.5	23.1	12.2	11.5	14.1	12.1	11.4

whooping cough epidemics prevalent last year were indicated in the preliminary United States 1934 death rates, issued today by W. L. Austin, Director of the Bureau of the Census, Department of Commerce.

Control of communicable diseases by public health work and general education resulted in a new low death rate of 3.4 from typhoid and paratyphoid fever in 1934 as against 35.9 in 1900, a reduction of more than 90% in 34 years. From a high of 10.2 in 1900 the death rate from scarlet fever has been brought down to 2 for last year, a reduction of about 80% in the same length of time. A similar trend is indicated in the control of diphtheria which in 1900 caused 43.3 deaths per 100,000 estimated population. The 1934 rate was 3.3, a reduction of 92%. During the same period of time the tuberculosis death rate was reduced by about 72%. Smallpox deaths, once the scourge of the United States, have been practically eliminated.

Measles and whooping cough, for which specific control measures are not in general use, were epidemic last year. The measles death rate was more than double the 1933 figure. Whooping cough likewise showed an increase in the death rate of about one and one-half times 1933.

DEATHS BY ACCIDENT AND SUICIDE

In contrast to the lower death rates where effective public health measures prevail, accidental deaths rose

CAUSE OF DEATH	1916	1917	1918	1919	1920	1921	1922	1923
All causes (ex. of stillbirths)	1,404.3	1,425.5	1,809.1	1,2[illegible]7.4	1,303.8	1,15[illegible].2	1,173.9	1,219.7
Typhoid and paratyphoid fever	13.3	13.5	12.6	9.2	7.8	9.0	7.4	6.8
Smallpox	0.2	0.3	0.4	0.4	0.6	0.7	0.7	0.1
Measles	11.1	14.3	10.8	3.9	8.8	4.3	4.3	10.7
Scarlet fever	3.3	4.2	3.0	2.8	4.6	5.3	3.5	3.5
Whooping cough	10.2	10.5	16.9	5.5	12.5	9.1	5.6	9.7
Diphtheria	14.5	16.6	13.9	14.7	15.3	17.6	14.6	12.0
Influenza and pneumonia (all forms)	164.3	167.8	587.0	222.3	208.0	99.3	132.6	152.4
Influenza	26.5	17.3	300.8	98.8	70.9	11.4	31.2	44.3
Bronchopneumonia(1)	49.2	50.6	70.0	47.8	54.5	39.1	44.9	47.3
Lobar pneumonia	76.7	87.3	187.6	66.2	73.0	42.5	50.1	53.7
Pneumonia, unspecified	12.0	12.6	28.6	9.5	9.5	6.2	6.4	7.1
Erysipelas	3.8	3.8	3.2	2.6	3.1	2.8	2.5	2.7
Epidemic cerebrospinal meningitis	2.2	3.9	3.4	1.8	1.6	1.5	1.0	1.0
Tuberculosis of the respiratory system	119.9	124.6	128.6	107.5	97.0	85.6	84.3	81.3
Other forms of tuberculosis	22.2	22.5	21.4	18.1	17.0	13.3	12.1	11.5
Malaria	3.0	3.2	3.1	3.8	3.6	3.6	3.6	2.8
Cancer and other malignant tumors	82.1	82.0	80.3	80.5	83.2	85.6	86.2	88.7
Diabetes mellitus	17.1	17.0	15.9	14.9	16.0	16.3	18.3	17.7
Cerebral hemorrhage and softening	82.9	84.5	81.2	78.6	81.7	80.6	82.9	86.9
Diseases of the heart(3)	168.7	171.7	170.1	146.7	159.1	156.3	164.6	173.8
Bronchitis	16.2	16.4	15.7	12.8	13.2	9.0	9.3	9.0
Diarrhea and enteritis(4)	79.5	79.3	72.7	55.2	54.3	51.4	39.3	39.6
Appendicitis	12.8	12.6	12.2	11.8	13.4	14.4	14.1	14.7
Hernia, intestinal obstruction(5)	11.3	11.6	11.5	10.4	10.6	10.7	10.5	10.4
Cirrhosis of the liver	12.3	11.4	9.6	7.9	7.1	7.4	7.4	7.2
Nephritis	105.6	107.9	[illegible]7.6	[illegible]8.1	[illegible]9.2	85.0	[illegible]7.9	[illegible]9.3
Puerperal septicemia	6.7	6.9	6.5	5.8	6.6	6.8	5.7	5.8
Other puerperal causes	9.6	9.8	15.8	11.2	12.5	10.1	9.9	9.7
Congenital malformations and diseases of early infancy	94.0	91.9	92.3	79.9	84.7	83.9	77.7	77.3
Suicide	14.2	13.4	12.2	11.4	10.2	12.5	11.8	11.5
Homicide	7.1	7.7	6.8	7.5	7.1	8.5	8.3	8.1
Automobile accidents(6)	7.3	9.0	9.3	9.4	10.4	11.4	12.4	14.7
Automobile and railroad-train collision	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Automobile and street-car collision	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Other external causes	76.9	79.2	73.0	62.5	[illegible]0.[illegible]	56.9	57.1	61.1
Unknown and ill-defined diseases	15.2	18.2	19.2	18.3	17.7	15.9	17.6	17.0

sharply. A new all-time high death rate of 26.9 per 100,000 estimated population caused by automobile accidents was the outstanding feature of statistics in the violent deaths classification. This death rate represents an increase over 1933 of 15% and over 1932 of 23%. Lightening of the depression is probably reflected in the lowered suicide rate which attained a peak in 1932 but has now fallen to about the level of 1929.

CAUSE OF DEATH	1924	1925	1926	1927	1928	1929	1930	1931
All causes (ex. of stillbirths)	1,173.0	1,184.1	1,225.4	1,143.4	1,206.6	1,191.9	1,133.1	1,107.5
Typhoid and paratyphoid fever	6.7	8.0	[illegible].5	5.5	4.9	4.2	4.8	4.5
Smallpox	0.9	0.7	0.4	0.1	0.1	0.1	0.1	0.1
Measles	8.5	2.3	8.2	4.1	5.4	2.5	3.2	3.0
Scarlet fever	3.1	2.7	2.5	2.3	2.0	2.1	1.9	2.2
Whooping cough	8.2	6.7	8.9	6.9	5.5	6.3	4.8	3.9
Diphtheria	9.3	7.8	7.5	7.8	7.2	6.6	4.9	4.8
Influenza and pneumonia (all forms)	116.7	123.4	143.5	103.2	143.5	147.2	102.7	107.7
Influenza	19.4	29.7	40.8	22.6	45.3	55.5	19.5	26.5
Bronchopneumonia(1)	40.6	38.7	44.0	33.8	39.6	37.6	34.3	33.6
Lobar pneumonia	50.6	49.9	54.0	43.2	53.4	49.5	45.4	44.5
Pneumonia, unspecified	6.1	5.1	4.7	3.7	5.1	4.6	3.5	3.2
Erysipelas	2.5	2.4	2.6	2.4	2.4	2.5	2.1	1.9
Epidemic cerebrospinal meningitis	1.0	1.1	1.3	1.6	2.6	4.5	3.6	2.4
Tuberculosis of the respiratory system	78.0	75.9	76.6	71.4	70.3	67.6	63.4	60.7
Other forms of tuberculosis	11.7	10.8	10.7	9.5	9.0	8.4	8.1	7.5
Malaria	2.4	2.1	1.9	2.7	3.6	3.5	2.9	2.1
Cancer and other malignant tumors	91.1	92.8	95.1	95.7	96.1	95.9	97.2	98.9
Diabetes mellitus	16.4	16.9	18.0	17.5	19.0	18.8	19.0	20.4
Cerebral hemorrhage and softening	88.9	81.0	82.8	80.4	83.4	82.1	81.0	79.1
Diseases of the heart(3)	176.5	185.7	199.5	196.0	208.2	210.8	205.5	201.9
Bronchitis	7.2	6.5	6.6	5.4	5.2	4.7	4.2	3.8
Diarrhea and enteritis(4)	34.5	39.4	33.6	27.6	26.9	23.5	26.3	20.7
Appendicitis	14.8	15.2	15.0	15.0	15.3	15.2	15.3	15.2
Hernia, intestinal obstruction(5)	10.5	10.8	11.2	10.5	10.5	10.6	10.3	10.5
Cirrhosis of the liver	7.3	7.3	7.2	7.5	7.6	7.2	7.2	7.4
Nephritis	88.8	96.5	98.5	92.6	95.2	91.2	90.8	87.2
Puerperal septicemia	5.7	5.5	5.3	5.3	5.0	5.0	4.6	4.6
Other puerperal causes	9.6	9.3	9.1	8.5	8.8	8.2	8.2	7.3
Congenital malformations and diseases of early infancy	77.6	74.0	71.7	67.8	65.8	62.4	60.9	56.5
Suicide	12.1	12.1	12.8	13.3	13.6	14.0	15.6	16.8
Homicide	8.4	8.6	8.8	8.8	8.8	8.5	9.0	9.3
Automobile accidents(6)	15.5	17.1	18.0	19.6	20.8	23.3	24.5	25.2
Automobile and railroad-train collision	1.0	1.2	1.5	1.5	1.8	1.7	1.5	1.4
Automobile and street-car collision	0.4	0.5	0.4	0.4	0.5	0.4	0.4	0.4
Other external causes	58.8	59.7	58.9	57.0	56.3	55.5	54.2	51.6
Unknown and ill-defined diseases	17.5	17.4	17.8	17.6	20.6	20.9	21.0	18.9

Cause of Death	1932	1933	1934
All causes (ex. of stillbirths)	1,089.0	1,067.7	1,104.9
Typhoid and paratyphoid fever	3.7	3.6	3.4
Smallpox	(7)	(7)	(7)
Measles	1.6	2.2	5.5
Scarlet fever	2.1	2.0	2.0
Whooping cough	4.5	3.6	5.9
Diphtheria	4.5	3.9	3.3
Influenza and pneumonia (all forms)	107.8	95.6	96.8
Influenza	30.8	26.4	17.3
Bronchopneumonia(1)	32.6	29.6	33.2
Lobar pneumonia	41.2	36.4	43.3
Pneumonia, unspecified	3.1	3.2	3.1
Erysipelas	1.6	1.6	1.5
Epidemic cerebrospinal meningitis	1.4	1.2	1.0
Tuberculosis of the respiratory system	56.4	53.6	51.2
Other forms of tuberculosis	6.4	5.9	5.5
Malaria	2.1	3.7	3.6
Cancer and other malignant tumors	102.1	102.2	106.3
Diabetes mellitus	21.9	21.3	22.1
Cerebral hemorrhage and softening	79.4	75.8	77.4
Diseases of the heart(3)	209.1	206.1	213.2
Bronchitis	3.6	3.2	3.3
Diarrhea and enteritis(4)	16.4	17.2	18.4
Appendicitis	14.2	14.1	14.3
Hernia, intestinal obstruction(5)	10.2	10.0	10.3
Cirrhosis of the liver	7.2	7.4	7.7
Nephritis	87.2	83.0	84.3
Puerperal septicemia	4.1	3.9	4.0
Other puerperal causes	7.0	6.4	6.1
Congenital malformations and diseases of early infancy	53.2	50.6	53.0
Suicide	17.4	15.9	14.9
Homicide	9.2	9.6	9.5
Automobile accidents(6)	21.9	23.3	26.9
Automobile and railroad-train collision	1.2	1.1	1.2
Automobile and street-car collision	0.3	0.3	0.3
Other external causes	48.1	47.7	51.7
Unknown and ill-defined diseases	17.5	17.5	16.6

(1) Includes capillary bronchitis.
(2) Not separately tabulated.
(3) Excludes diseases of coronary arteries.
(4) From 1900 to 1920 includes ulcer of the duodenum.
(5) From 1900 to 1920 includes adhesions of intestines.
(6) Excludes deaths from collision with railroad trains and street cars.
(7) Less than one-tenth of 1 per 100,000 population.

Note: Rates from 1920 computed on population estimates based on the censuses of 1920 and 1930.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Medicine, 2 E. 103rd St., New York City.

Alliance Against Fraud, 36 W. 44th Street, New York City.

Allied Dental Council, 425 Lafayette St., New York City.

American Academy of Applied Dental Sciences, 587 Fifth Ave., New York City.

American College of Surgeons, 40 E. Erie St., Chicago, Ill.

American Gynecological Society, 104 S. Michigan Ave., Chicago, Ill.

American Heart Assn., Inc., 450 Seventh Ave., New York City.

American Institute of Homeopathy, 393 Seventh Ave., New York City.

American Laryngological, Rhinological and Otological Society, Inc., 145 W. 58th St., New York City.

American Medical Assn., 535 N. Dearborn St., Chicago, Ill.

American Occupational Therapy Assn., 175 Fifth Ave., New York City.

American Ophthalmological Society, 2213 Walnut St., Philadelphia, Pa.

American Osteopathic Assn., 844 Rush St., Chicago, Ill.

American Physiological Society, Rockefeller Institute, New York City.

American Society of Clinical Pathologists, 531 N. Main St., South Bend, Ind.

American Society for the Control of Cancer, 1250 Sixth Ave., New York City.

American Society of Tropical Medicine, Vanderbilt University School of Medicine, Nashville, Tenn.

American Veterinary Medical Assn., 221 N. La Salle St., Chicago, Ill.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Association of Military Surgeons of the U. S., Army Medical Museum, Washington, D. C.

Edward L. Trudeau Foundation for Research and Teaching in Tuberculosis, Saranac Lake, N. Y.

National League of Nursing Education, 450 Seventh Ave., New York City.

National Tuberculosis Assn., 450 Seventh Ave., New York City.

New York Academy of Sciences, 77th St. and Central Park West, New York City.

New York Health Department, Inc., 139 Centre St., New York City.

Osteopathic Aid Assn., 49 E. 41st Street, New York City.

Public Health Committee, 2 E. 103rd St., New York City.

Rockefeller Foundation, 49 W. 49th Street, New York City.

Society of American Bacteriologists, Cornell University, Ithaca, N. Y.

Society of Medical Jurisprudence, 2 E. 103rd St., New York City.

Southern Medical Assn., Empire Bldg., Birmingham, Ala.

United Hospital Fund, 122 E. 22nd St., New York City.

United States Hay Fever Assn., Bethlehem, N. H.

DIVISION XXIV

PHILOSOPHICAL AND SOCIAL SCIENCES

PSYCHOLOGY

By Wilbur S. Hulin

Professor, Princeton University

PHILOSOPHICAL FOUNDATIONS

General Trend.—In the wide sweep of discoveries regarding atomic and electrical phenomena in the physical world and in their reflection upon the biological world an intellectual situation has arisen which seems to be leading philosophers toward a third period of "enlightenment" (following those of 300 B.C. and 1700 A.D.). The principal trend at present is toward mathematical logic. Since modern ethnology has revealed the crudity and shortcomings of language as a medium of communication and thought the necessity has arrived of abandoning the older orthodox forms of logic, and in their place has come "logical positivism," etc. (see H. Miller, *J. Philos.*, Sept.), wherein the enduring meanings and symbolisms behind words, like those existing behind numerical values, reppresent the ultimate metaphysical realities in the universe.

Viewpoints.—Science offers "brute facts" which are regarded as existing independent of any particular system or theoretical point of view. Reacting to this attitude of science many present-day philosophers have tried to establish a "standpointless philosophy," based on an acknowledgment of the existence of simple data (that which is simply "given"); P. A. Schlipp, however, believes that all facts must involve a frame of reference and that the underlying philosophy must be oriented toward some particular viewpoint (*Philos. Rev.*, May).

Relation of Philosophy and Science.—Scientific methods imply a reality of the empirical data which are treated, and no demand is made that their reality be established by metaphysics, according to J. Ratner; nevertheless, a consistent agreement between the scientific results and the philosophical conclusions is desirable (*J. Philos.*, July).

Personal Freedom.—Both J. Dewey and W. E. Hocking have discussed "the future of liberalism;" Dewey is emphatic in his statement that cultural freedom must be supreme, that it is the road to industrial freedom, and that freedom is justified in view of the changeability and relativity of human standards throughout history. Hocking expresses the hope that liberalism can become based upon some standard of metaphysical validity which will be a co-agent to the standards imposed by the state (*ibid.* April). There is, however, an important qualification to the exercise of freedom in society, namely, the development of competition; here is a factor antagonistic to complete freedom which can only with difficulty be made to conform with social control (F. H. Knight, *Int. J. Ethics*, Oct.).

Social Physics.—The enthusiasm in America for V. Pareto's description of social phenomena has culminated in the publication of an English translation, entitled, *The Mind and Society*, 4 vols. (Harcourt, Brace), under the editorship of A. Livingston: these volumes contain an empirical method of collecting a vast number of extracts from ancient sources and also clippings from contemporary sources upon innumerable details of human conduct; this method has been praised by the scientist, L. J. Henderson, in his book, *Pareto's General Sociology: A Physiologist's Interpretation* (Harvard Univ. Press).

History.—A. Wolf has treated in an encyclopedic manner the subject of invention and discovery during one of the crucial periods in human thought in his *History of Science, Technology and Philosophy in the XVIth and XVIIth Centuries* (MacMillan).

PSYCHOLOGY

American Psychological Association.—There are more than 1,800 members of the American Psychological Association. These members are of recognized professional and academic standing; their work is essentially scientific and is subject to the examination and verification of their colleagues (a marked contrast to the quacks who attempt commercial exploitation through obscure and mystifying practices). At the 1935 annual meeting at the University of Michigan, the President, A. T. Poffenberger, spoke on the current trend of psychology toward the more comprehensive understanding of life; this marks a shift of interest away from the older pedantic analysis of the "mind."

Popular Books.—With the popular interest to the general reader J. M. Dorsey's *Foundations of Human Nature* (Longmans Green) has been well received; the book portrays man's evolutionary beginnings as well as racial influences. An exposure of the current pseudoscientific types of financial profiteering is presented in D. H. Yates' book, *Psychological Racketeers* (Humphries); the book furnishes a basis for discriminating between acceptable and unacceptable forms of practice, such as in psychoanalysis.

Theoretical.—K. Koffka, in his book on *Gestalt Psychology* (Harcourt, Brace), depicts the recent developments of that widely attractive school of theory; the principal character of recent developments is the extension of the view into the social and educational fields of investigation. Another thorough discussion of *Gestalt Psychology* (Ronald) in which the work of the American experimentalists is given a due proportion of attention has been written by G. W. Hartmann; the American laboratories are usually inclined to be analytical in their observation rather than phenomenological as are the German investigators. C. C. Josey calls to notice the possibility offered by gestalt psychology to deal with the most synthetized of all psychical factors, namely, the self; furthermore, the self reveals configurations between the individual and society, and between the individual and the cosmos, as in religion (*J. Abn. & Soc. Psych.*, April).

Textbooks.—G. Murphy, E. B. Skaggs, L. B. Hoisington, J. G. Jenkins, C. E. Skinner, J. H. Griffiths, and Boring, Langfeld & Weld have produced general introductory textbooks and readings of psychology.

Deaths.—Professor Joseph Peterson of George Peabody College died on Sept. 20, 1935. Professor Henry E. Starr of Rutgers University died on Nov. 2.

SENSE PERCEPTION

Sensation.—Surprisingly little experimental evidence has been obtained on the common experience of "adaptation to pressure," but M. N. Crook and H. Crook have recently found that the development of fatigue in the cutaneous nerves follows a course similar to that of fatigue in the olfactory and visual senses (*Amer. J. Psych.*, April). Experiments by S. S. Stevens, H. Davis and M. H. Lurie on the electric potentials set up in the cochleas of guinea pigs show that the relative strengths of the potentials agree closely with the relative strengths of stimuli which yield tones that are reported as equal in intensity in human subjects; this agreement between intensity of sound heard and strength of action current furnishes further confirmation to the theory that tones of different pitches are sensed by definite places along the basilar membrane (*J. Gen. Psych.*, Oct.).

Three-color Theory.—The most widely accepted theory concerning the color sensitivity of the eye is that the retina possesses three physiological processes from which the sensations of all other colors are derived; many experiments on color vision can be interpreted in terms of this theory; thus G. A. Fry has shown that intermittent white light, alternated with darkness, is less brilliant for the red physiological process than for the others; thus the three processes may be distinguished temporarily by intermittent illumination (*Amer. J. Psych.*, July).

Space Perception.—The ability to localize sounds with the two ears depends both upon difference of intensity in the sounds going to each ear, and also difference in the phase relation of the sounds; O. C. Trimble has determined that, contradictory to some assertions, intensity differences are more influential than phase differences for the perception of direction (*ibid*, April). The opinion has occasionally been expressed that many superior athletes, especially ball players, have an exceptionally great width between their eyes, thus permitting greater stereoscopic vision, but careful tests by B. Clark and N. Warren do not confirm this opinion (*ibid*, July). The different forms of tactual space discrimination, such as the two-point threshhold and the errors of localization, have been compared by M. J. Zigler and shown to correspond in the degree of their acuity on the same cutaneous areas, indicating some identical characteristic in the different types of judgment (*J. Gen. Psych.*, Oct.). In rats, auditory localization is disturbed by injury to cortical regions in the posterolateral area, but in about 10 days the ability to localize is regained; L. A. Pennington concludes that the return of the ability is due to the involvement of a larger area of the brain than that part injured in the function of localization (*J. Genet. Psych.*, June).

AFFECTIVE RESPONSES

Feeling.—H. P. Hyder has described the "mechanisms of affective response" in terms of both the ontogenetic development of the individual and the development of racial customs, showing how simple feeling states contribute to the elaborate pleasure-pain motivation and wishful thinking characteristics which influence one's conduct (*Med. Rec.*, May). Though the lack of uniformity between the feelings of different people is often asserted as one of the most characteristic aspect of affection, yet K. Hevner, in a simple experimental comparison of the affective judgments on curves and angles, found considerable consistency and uniformity between the observers and also agreement with the subject matter of the artist (*J. Appl. Psych.*, Aug.).

Emotion.—A complete picture of the underlying physiological factors in emotion, of the action of the autonomic nervous system, the glands, the influence of different metabolic states, as well as the outside causes of emotion such as incipient pathological situations, is supplied in H. F. Dunbar's book, *Emotions and Bodily Changes* (Columbia Univ. Press). S. J. Gray argues that different emotions may be due to a difference of chemical condition in the blood; by this "objective theory of emotion" he has hoped to answer the difficulty in the James-Lange theory, indicated by Cannon, that the visceral responses are too similar to differentiate the emotions (*Psychol. Rev.*, Jan.).

PHYSIOLOGY

Action.—Muscles which possess a greater degree of voluntary control are more readily conditioned, according to L. W. Kline and H. M. Kohler, because of the greater number of relations between their cortical paths and the paths of allied movements (*Amer. J. Psych.*, Jan.). In parts of the body which are in a preparatory set for a reaction-time response there is no action potential, as might causually be expected; the action potential appears about six-tenths of a second before the actual response: S. R. Hathaway (*J. Exp. Psych.*, June). A clear cut study of behavior, rather than of underlying physiology, is given in H. Hoagland's

Pacemakers in Relation to Aspects of Behavior (Macmillan): specific behavior problems are attacked in detail, such as the behavior of lateral-line fishes, the causes of rhythmic behavior in animals, the effects of such conditions as temperature on behavior. H. Cason has established backward conditioning of the eyelid reflex; this result confirms recent findings of Switzer and others that an action can be elicited by a stimulus which originally followed it; this is a fact formerly disputed by Pavlov who maintained that conditioned responses only develop when the conditioning stimulus precedes the response (*J. Exp. Psych.*, Oct.). F. Mateer has judiciously handled the problem of *Glands and Efficient Behavior* (Appleton-Century).

Nervous System.—In recent years there has once again arisen a defense of the theory that the brain acts in a more or less unitary manner rather than in separate parts; this view is typified by Lashley's description of the "mass action" and "equipotentiality" of the brain; in a lengthy review of the evidence, however, F. A. Mettler has concluded that "equipotentiality presupposes a homogeneity of the cortex which does not exist." Instead the neuron structure of the brain indicates the existence, both from the morphology and the physiology of the brain, of pathways for the nerve impulses (*J. Gen. Psych.*, Oct.). Studying epilepsy, M. E. Fetzer has found that no changes in the function of the autonomic nervous system arise during this malady; rather, the symptoms probably result from disturbances in the central nervous system (*J. Comp. Psych.*, Aug). Doses of caffeine, which increase a person's general tension, seem to aid slightly the acquisition of rote memory, according to C. L. Hull (*J. Gen. Psych.*, Oct.).

COMPARATIVE PSYCHOLOGY

Animal Motivation.—The appetites and hungers in animals have been used to motivate various mental processes, such as sensory discrimination; however, as A. H. Maslow points out, the data on mental processes can be considerably altered according to the degree of motivation elicited by a given situation; consequently the motivating situations must be carefully controlled if the measures obtained through them are reliable (*J. Comp. Psych.*, Aug.).

Animal Learning.—The limits of learning ability in monkeys can be quite definitely determined; the number of complications which can be added in the maze situations varies between rhesus and cebus monkeys, but both of these animals can learn more complications than can rats, kittens or guinea pigs (*Genet. Psych. Monog.*, June). An example of thinking in an animal is given in W. Fishel's experiments in which various animals were presented with a choice of goals and a choice of means by which to arrive at the goals; higher animals remember better their former incentives than do reptiles which are influenced only by the immediate situation (*J. Comp. Psych.*, June). It has been amusingly shown that when a chick becomes extremely hungry the accuracy of pecking is diminished; W. A. Bousfield and E. Spear (*Amer. J. Psych.*, July). N. R. F. Maier and T. C. Schneirla have made a comprehensive and lengthy survey of the *Principles of Animal Psychology* (McGraw-Hill) by showing the manner in which each of the topics has developed experimentally.

LEARNING

Texts.—It is significant that two large books have been written within the year on the subject of learning; it is apparent that this topic is of importance both from the viewpoint of biological theory regarding the modification of behavior in an organism and from the viewpoint of the practical interest in teaching. Largely in terms of the conditioned response principle E. R. Guthrie has written *Psychology of Learning* (Harper), and a general, comprehensive *Psychology of Learning* (McGraw-Hill) has been produced by R. A. Davis. It has been found that "reminiscence" (improvement in recall without intervening relearning) depends upon many conditions such as the immediacy of the initial recall: G. O. McGeoch (*Amer. J. Psych.*, Jan.). In learning visually perceived forms E. V. Fehrer has shown that more factors are involved than the progressive accentuation or merging (levelling) tendencies described by the configurationists; in addition there are factors of complication and simplification (*ibid*, April).

THOUGHT

Imagery.—The extent to which the activity of the imagination may be nurtured and fruitfully developed has not been given any sustained consideration by writers; F. V. Markey's review of the experimental and theoretical studies of imagination during recent years indicates that there has been a lack of coördination between the various studies, in spite of the fact that educators are constantly endeavoring to develop creative thinking in their students (*Psych. Bull.*, March). When a conflict or a blocking occurs in the process of thinking there is usually present some similarity between the alternatives in conflict; the greater the similarity the more acute becomes the blocking. (A. G. Bills *J. Exp. Psych.*, April).

THE ABNORMAL

Psychopathology.—W. Malamud has written the *Outlines of General Psychopathology* (Norton). The attention of students of abnormal psychology is directed more and more toward the early years of the individual's life; this tendency is represented by J. J. B. Morgan's book on *The Psychology of the Unadjusted School Child* (Macmillan) in which he stresses the existence of motivation behind atypical acts. The treatment and cure of the mentally sick are often complicated by the adverse attitude of the patients toward their detention in an institution; T. Dembo and E. Hanfmann have found that the patient's psychological attitude upon admission often involves a refusal to acknowledge any real disorder; an assumption that the detention is only temporary may well be encouraged, because it gives the patient an ''outward directed drive'' toward recovery (*Amer. J. Psych.*, July). Experimentally induced neuroses in animals have been accomplished by O. D. Anderson and H. S. Liddell: the Pavlov method of establishing extremely fine conditioned discriminations as employed in order to introduce states resembling nervous breakdowns; subsequent rest periods for the animals brought about a recovery (*Arch. Neur. & Psychiat.*, Aug.). A. N. Frandsen has established the fact that the mechanical ability of morons overlaps that of the normal population; this indicates that many morons could profitably be put into manual types of work (*J. Appl. Psych.*, Aug.).

SOCIAL PSYCHOLOGY

Racial.—In the last decade there has occurred a considerable change of view toward the distinctions which may be drawn between racial groups; today, as illustrated by O. Klinberg's *Race Differences* (Harper), ethnic lines are drawn in terms of acquired customs rather than on any alleged basis of native or inherited anatomical and mental distinctions. C. Murchison has edited *A Handbook of Social Psychology* (Clark Univ. Press) which contains discussions of group behavior in all forms of life including plants, bacteria and lower animals; the experimental control of conduct in children and adults is also described.

Personality.—An increasing proportion of psychological study is being devoted to the general problems of the human personality; within this field of interest E. L. Thorndike makes a special consideration of *The Psychology of Wants, Interests and Attitudes* (Appleton-Century): a multitude of experiments are described by which an individual can analyze his own personality: there are tests of self-control in performing distasteful tasks, measures of self-respect, aesthetic preferences, etc. From the viewpoint of gestalt psychology K. Lewin has developed a *Dynamic Theory of Personality* (McGraw-Hill).

Public Attitude.—R. O. T. C. students, says H. W. Rogers, are largely opposed to war; they see nothing good derived from it. The present-day attitude of the college student differs considerably from that of two decades ago (*J. Educ. Psych.*, April). A first hand study of the psychology and technique of *Propaganda* (Henry

Holt) has been compiled by L. W. Doob. E. S. Robinson has successfully answered a great need in his book on *Law and Lawyers* (Macmillan) in which he has brought together the various scattered psychological facts which have significance for law, and has blended these with the psychological opinions of the legal profession itself.

EDUCATIONAL PSYCHOLOGY

Developmental Study.—In C. R. Griffith's *Introduction to Educational Psychology* (Farrar & Rinehart) the biological and genetic approach to educational problems is featured rather than an analysis of capacities measured by tests. College students who plan their vocational careers during the college years are, as a group, found to be more successful than those who do not so plan, according to B. F. Culver (*Personn. J.*, June). The group of students who obtained high grades in sociological studies have acquired greater success than other groups in later life, according to correlations obtained by W. R. Van Voorhis and A. C. Miller; low correlations occur between athletic achievement as well as music achievement and later success (*J. Educ. Psych.*, May).

MENTAL TESTS

Intelligence Tests.—A review of intelligence tests by R. Pintner indicates that the main interest has shifted from intellectual aptitudes to personality traits; this shift is shown in tests devised to measure emotional stability and adjustment, such as L. A. Thompson's; the shift is also seen in tests of attitude and interest, such as R. S. Uhrbrock's test upon 4,000 employees; also, in follow-up studies, as by E. L. Thorndike, on the results of child guidance in later achievements (*Psych. Bull.*, July).

Attitude Tests.—Through the initiative of L. L. Thurstone many tests of complex attitudes have been composed by which to measure the rating of conventional beliefs, the interests of workers, etc.; technically, as P. Horst points out, the analysis of the multiple factor problem existing in the case of complex attitudes varies with different statistical treatments so that care must be taken to create artifacts (*J. Soc. Psych.*, Aug.).

Special Tests.—For special conditions, such as the prediction of musical ability, P. R. Farnsworth has found that tests, such as Seashore's test of tonal ability, is of greater significance than general intelligence tests (*J. Appl. Psych.*, June). In testing the intelligence of delinquent boys it was found that these subjects are not typically of low intelligence; this finding points to the importance of environmental influences in social and moral problems. (H. A. Lane and P. A. Witty, *J. Juv. Res.*, Jan.)

Theory of Testing.—D. E. Scates, reviewing the types of assumption made in educational research, lists three controlling criteria: there is the ''technical assumption'' that the proper mathematical treatment is the crucial factor in obtaining facts; there is the ''methodological assumption'' that the selection of the raw data and items to be investigated forms the most important element of research; but along with these assumptions must be recognized the viewpoint, beliefs and interests of the investigators themselves; the resulting conclusions often reflect this latter factor (*J. Educ. Psych.*, May). An alternative to ''mathematical factors'' in mental tests is that of an inventory of the conceptual background as well as the external *gene loci* and environment of the individual in order to portray the genetic and motivating components in one's mental composition, components not revealed by quantitative measures (*Psych. Rev.*, Sept.). A volume which includes both the techniques of testing and also a survey and interpretation of the fundamental facts to be measured is found in D. Wechsler's *Range of Human Capacities* (Williams & Wilkins).

ANTHROPOLOGY AND ETHNOLOGY

By Alexander Lesser

Professor, Columbia University

GENERAL

Definite trends were increasingly evident in 1935. The physiological approach, as in studies of growth, rather than anatomical considerations, continued the most fertile field in physical anthropology; studies in American Indian linguistics have become more intensive and are being extended to investigations of aboriginal languages of Latin America; archaelogy emphasized more and more the connections between the ethnological present and the prehistoric past; and ethnology and social anthropology stressed the need for more profound field studies along special lines, and showed a renewed interest in critical issues of theory and methodology. The relation of border-line fields of anthropology to biology and genetics, to philology, to history and the fine arts, and to psychology, sociology, economics and law, has become increasingly apparent.

Increasing attention to ethnological, linguistic and archaeological problems of Latin America was focussed by the organization of the Latin American Institute under auspices of the University Museum of Philadelphia to stimulate and cooperate with such research. A new Society for American Archaeology with an official organ, *American Antiquity,* was formed to foster greater cooperation between local archaeological work and the general scientific interests of American archaeology.

PHYSICAL ANTHROPOLOGY

Fundamental Growth.—The problem of growth as fundamental was stressed by T. Wingate Todd in an address at the opening of the year on ''Anthropology and Growth'' (*Science* 81:259-163). ''The adult form of mankind is the outcome of growth enhanced, dwarfed, warped or mutilated by the adventures of life.'' According to Todd, the work of Franz Boas on changes of head form in children of immigrants set ''a new furrow in the anthropological field,'' opposing to overemphasis upon hereditary determination a new conception of the fundamental relation of environmental conditions to development. F. Boas and N. Michelson carried the study of changes of head form further into analysis of the third or grandchild generation descended from immigrants, data for which were unavailable earlier. H. L. Shapiro found similar changes of head form in children of Japanese in Hawaii. Improved methods of studying growth, made possible as better anatomical and physiological records have become available, stressed by Todd in ''The Bodily Expression of Human Growth and Welfare'' (*Science* 82:181-186) and illustrated in C. E. Palmer and L. J. Reed's ''Anthropometric Studies of Individual Growth'' (*Human Biology* 7:319-224) emphasize the use of records of individual growth careers, as opposed to earlier methods of inferring growth changes from observations of different individuals measured at different periods in their growth. W. M. Krogman applied these principles in ''Life Histories Recorded in Skeletons'' (*American Anthropologist* 37:92-103), showing that the life history of the individual's experiences of health and illness can be inferred from skeletal remains. Boas considered the relation of date of birth to growth (*Human Biology* 7:303-318) and C. B. Davenport reported on the ''Development of Trunk Width and Trunk Width Index'' (*idem* 7:151-195). The growth of Pueblo Indian children was studied by S. D. Aberle and E. H. Pitney; that of Mayan Indians by M. Steggerda.

Heredity.—The problem of growth has led to a new understanding of the factor of heredity. Todd (op.cit.) suggests that there are family patterns of growth, and Boas in ''Tempo of Growth of Fraternities'' (*Pro-*

ceedings, National Academy of Sciences 21:413-418) shows that environmental conditions account for fundamental effects of growth history but that the rate of growth differs for different family lines. F. Bernstein, who earlier showed a correlation between the appearance of presbyopia and the onset of senility, accumulated evidence that the time of appearance of presbyopia may be hereditary. As an index of senility and the life span, N. Michelson studied ''the Calcification of the First Costal Cartilage among Whites and Negroes'' (*Human Biology* 6:543-557).

Physical Characteristics of Peoples.—Investigations of the physical characteristics of various peoples included those of H. L. Shapiro on peoples of the Pacific Islands, with special reference to the Pitcairn Islanders and race crossing; C. C. Seltzer on Syrians and Armenians; C. W. Dupertuis on peoples of Ireland; and G. T. Bowles on peoples of Tibet. A comprehensive anthropometric study by H. Field of the ''Arabs of Central Iraq'' (Field Museum of Natural History) has just appeared.

Blood Structure in Relation to Race.—Blood structure and its relation to race continued to be discussed in D. F. Rubin and de la Bordolla's ''Grupos sanguineos y metabolismo basal'' (*Annals,* Museo Nacional de Arqueologia, Historia y Etnografia 1:5-9; Mexico City) and R. R. Gates' ''Blood Groups and Physiognomy of British Columbia Coastal Indians'' (*Journal of Royal Anthropological Institute* 64:23-44). L. C. Wyman and W. C. Boyd (*American Anthropologist* 37:181-200) show that ''finding apparently unrelated peoples with practically identical blood distributions'' may be explained by the fact that ''blood groups are probably older than the present races, but whether of anthropoid or independent origin it is difficult to say.'' R. Pearl and A. Ciocco considered ''Somatological Differences Associated with Diseases of the Heart in White Males'' (*Human Biology* 6:650-713), while the range of biological problems in anthropology was discussed by L. W. Parr (*Scientific Monthly* 1935, 218-236) and E. A. Hooton (*idem* 1934, 302-312).

Racial Traits.—Important studies of racial traits include R. Pearl's ''Weight of the Negro Brain'' (*Science* 80:413-434); L. W. Lloyd's ''Renal Artery in Whites and American Negroes'' (*American Journal of Physical Anthropology* 20:153-163); and I. C. Wen's ''Development of the Upper Eyelid of the Chinese, with Special Reference to the Mongolic Fold'' (*Chinese Medical Journal* 48:1216-1227). Race differences in mental disease were considered in B. Malzberg, ''Mental Disease among Negroes in New York State'' (*Human Biology* 7:417-514). Accepted ideas on race characteristics of hair are uprooted by M. Kneberg in ''Improved Technique for Hair Examination'' (*American Journal of Physical Anthropology* 20:51-67) who shows that ''from studies on the cross-sectional shape of human head hair by improved histological methods, it appears that hair form and the shape of the cross section of the hair shaft are not interdependent, and the form cannot be predicated from the shape of the cross section.''

Intelligence Testing.—Claimed racial differences in intelligence were critically considered in T. J. Woofter's ''Difficulties in Measuring Racial Mental Traits'' (*Social Forces* 13:415-418), and in O. Klineberg's *Negro Intelligence and Selective Migration* (Columbia University Press) where environmental conditions and not selective migration are proved to account for the difference between northern and southern Negroes found in comparative intelligence testing. D. Efron initiated important research on racial and national differences in gesture and emotional expression and their cultural basis. O. Klineberg's *Race Differences* (Harper) is an authoritative and comprehensive survey of the whole range of problems in this field. A. Lesser's ''On the Meaning of Race'' (*Race* 1:21-24; 48-49) demonstrates the impossibility of giving strict genetic meaning to the concept of race.

Racial Distribution.—A. Hrdlicka's ''Melanesians and Australians and the Peopling of America'' (*Smithsonian Miscellaneous Collections* 94 No. 11) showed that ''the hypotheses of either Melanesian or Australian, and even that of recognizable Polynesian, presence on the American continent is not demonstrable, nor even probable.'' G. von Bonin showed that ''European Races of the Upper Paleolithic'' (*Human Biology* 7:192-221) were racially homogeneous, and that descendants of their type survived in Neolithic times. Of special interest were W. M. Krogman's discussion of tooth decay among primitives and moderns (*American Journal of Physical Anthropology* 20:43-49) showing that, when correction is made for missing teeth and other factors, ''the difference in the frequency of dental caries is not so marked between early or primitive peoples and the civilized peoples as is generally believed'' and M. F. Ashley-Montagu's ''Location of the Nasion in the Living'' (*idem* 20:81-93), an important correction of anthropometric methods. W. K. Gregory's *Man's Place among the Anthropoids* (Oxford Press) was a notable and authoritative contribution.

LINGUISTICS

American Indian.—In the study of American Indian languages the main efforts have been to record and publish data on unwritten and as yet unknown languages; to make better known languages available for comparative study, and to extend the horizons of linguistic research into primitive languages of Latin America. The phonemic principle in recording, developed by E. Sapir, has been stressed in methods of transcription. A special tendency was the recognition of the linguistic aspect in the study of song.

The study of better known stocks leading toward comparative consideration includes research on Athapascan by E. Sapir, H. Hoijer and B. Haile; Siouan by F. Boas, R. H. Lowie, F. G. Speck, F. Hahn, E. Kennard, and C. C. Uhlenbeck; and Algonquian by L. Bloomfield, T. Michelson and C. F. Voegelin. Publications on these languages included: L. Bloomfield, ''Plains Cree Texts'' (*Publications*, American Ethnological Society, 16), F. G. Speck, ''Catawba Texts'' (Columbia University *Contributions to Anthropology* 24) and C. F. Voegelin, ''Shawnee Phonemes'' (*Language* 11:23-37).

Considerable research on smaller families or superficially known languages of California was done by C. F. Voegelin (Tubatulabal), S. Newman (Yokuts), H. J. Uldall (Maidu), and J. de Angulo and L. S. Freeland (Achumawi, Atsugewi, Pomo). Work in other areas included Zuni (R. L. Bunzel) and Pima (G. Herzog) of the Southwest; Pawnee (G. Weltfish) of the Plains; Timucua (J. R. Swanton), Tunica (M. R. Haas) and Yuchi (G. Wagner) of the Southeast. Publications on these included: C. F. Voegelin, ''Tubatulabal Texts and Grammar'' (University of California *Publications in American Archaeology and Ethnology* 34), R. L. Bunzel, ''Zuni Grammar'' (*Handbook of American Indian Languages* 3) and G. Weltfish, ''Caddoan Texts'' (*Publications*, American Ethnological Society 17).

Other important publications in American Indian linguistics were M. Jacobs, ''Northwest Sahaptin Texts'' (Columbia University *Contributions to Anthropology* 19), A. Phinney, ''Nez Percé Texts'' (*idem* 25), and F. Boas, ''Chehalis Text'' (*International Journal of American Linguistics* 8:103-111).

Latin American.—Extent of research on languages of Latin America was notable for Mexico. The Institute Mexicano de Investigaciones Linguisticas of the National University of Mexico planned to support publication of grammars and dictionaries. Research included Maya (M. J. Andrade), Otomi (G. G. Velasquez), Zapotec (P. van der Velde), and Cora (T. von K. Preuss). The problems of wider linguistic relationships were considered in A. L. Kroeber's (*Ibero-Americana* 8) and B. L. Whorf's (*American Anthropologist* 37:600-608) studies of Uto-Aztekan, and in J. de Angulo and L. S. Freeland's ''Zapotekan Linguistic Group'' (*International Journal of*

American Linguistics 8:1-38). Research on South American languages included Kaingang by J. Henry (*idem* 8:172-218) and H. Baldus (*Anthropos* 30:191-202); Goajira by P. Kirchoff; and Tupi-Guarani by P. A. Ayrosa (a dictionary) and F. J. Rice (*Journal de la Société des Américanistes* 26:109-180). Methodologically the most important contribution was M. Swadesh, "The Phonemic Principle" (*Language* 10:117-129).

ARCHAEOLOGY

Folsum Culture.—American archaeologists continued to concentrate their main attention on the prehistory of the New World. Developments in the study of the Folsom culture, the oldest authenticated horizon of New World man, featured the year. The methodological tendency to begin regional work from historically identifiable sites increased and bore fruit in more extensive linking of historic Indian peoples with the archaeological past. In many areas where type cultures are well known or chronology well established, research continued to broaden our knowledge of the distribution of cultural types and deepen our understanding of chronological horizons.

The Folsom culture was first known and named some years ago from the finding by Barnum Brown at Folsom, New Mexico, of a distinct type of flint point in association with skeletal remains of extinct bison forms. Folsom points have since been found elsewhere, and a number of Folsom sites of considerable antiquity have been excavated. E. B. Howard in "Evidence of Early Man in North America" (*Museum Journal* 24:59-171) estimates the antiquity of Folsom culture at not less than 10,000 years. F. H. H. Roberts (*Smithsonian Miscellaneous Collections*) reports on the Lindenmeier site in Northern Colorado, the only extensive camp site of Folsom man yet found, and describes the whole complex of stone implements associated at that site with the Folsom point. No skeletal remains are known; the physical characteristics of Folsom man remain to be discovered.

Folsom sites are distributed in a northerly direction, east of the Rocky Mountains. In the hope that the Folsom culture may prove a clue to migrations of early man from Asia, E. B. Howard visited Russia to arrange for research in Siberia. Thus far no Folsom type artifacts have been reported from Siberia.

Basket Maker—Pueblo.—F. H. H. Roberts' "Survey of Southwestern Archaeology" (*American Anthropologist* 37:1-35) summarized work and problems to date for the area. Here, where the sequence of Basket Maker and Pueblo horizons is strongly established, basic research and excavation showed more clearly the distribution of cultures at different periods, their links with cultures of other areas, and the characteristics of transitional periods. Sites claimed to be early Basket Maker have been found by F. Gardner in Texas, hundreds of miles southeast of the previously known distribution, and A. T. Jackson reported a late Basket Maker culture east of the Guadalupe Mountains. H. S. Gladwin's identification at Snaketown, Arizona of a ball court resembling those of Central America has linked cultures of southern Arizona more closely with cultures to the south and altered perspectives of cultural developments in the Southwest. Attempts are being made to extend the tree-ring chronology further backward in time for other regions of the area. The transitions from Pueblo I to Pueblo II and from the latter period of single house sites to the great Pueblo III period occupied the attention of many archaeologists. C. C. Seltzer presented evidence that in the western pueblos there has been no change of physical type from early times, which if established may necessitate basic revision of the picture of Basket-Maker—Pueblo history.

Prehistoric Cultures of Texas.—The problems of the relation of the prehistoric cultures of Texas to the southwest were critically discussed by H. S. Gladwin (*Bulletin*, Texas Archaeological and Paleontological Society 6:19-37) while in his "Place of Texas in pre-Columbian Relationships between the United States and Mexico'' (*idem* 7:29-46), J. A. Mason shows that basic cultural relations existed in early times between Maya and early Caddoan peoples of the Arkansas valley by way of the Huaxtec and the Texas coast. F. M. Seltzer found that the ''Prehistoric Cave Culture in Southwestern Texas'' (*American Anthropologist* 37:104-110) was that of a ''more or less isolated, independent group,'' and T. S. Stewart shows that ''Skeletal Remains from Southwestern Texas'' (*American Journal of Physical Anthropology* 20:213-231) prove that in physical type the early Texans were not identical with Basket Maker or the prehistoric inhabitants of southern California. A. T. Jackson reports cultural material resembling the historical Lipan-Apache from rock shelters of south central Texas, and that Caddoan culture becomes continuously more attenuated in western Texas.

Plains Cultures.—Archaeological work in the Plains increased. W. D. Strong's ''Introduction to Nebraska Archaeology'' (*Smithsonian Miscellaneous Collections* 93 No. 10) and W. R. Wedel's reports (*Nebraska History Magazine* 15:130-256) link prehistoric cultures of the eastern plains with historic Caddoan and Siouan sedentary village peoples. Camp sites in the Great Plains were investigated by M. Sayre and H. Turney-High in Montana, and E. B. Renaud showed that the culture of the high western plains extended into New Mexico in early times.

The method emphasized by Strong in Nebraska of investigating a region first in terms of identifiable historic sites has been followed in other areas, notably in California, by W. D. Strong, W. Walker, J. B. Lillard, W. Purves and M. J. Rogers (Yokuts, Chumash, Shoshonian, Nisenan, Diegueno); in Iowa by C. R. Keyes (Siouan); in Mississippi by M. B. Chambers (Chickasaw, Choctaw); in New York by W. A. Ritchie (Iroquois); in Ohio by E. F. Greenman (Delaware), and in Pennsylvania by D. A. Cadzow (Iroquois). A special survey of the southeast was undertaken by J. R. Swanton and F. M. Setzler to identify sites mentioned by early chroniclers. Results in California indicate the general trend. Yokuts culture of a site abandoned in 1806 was found closely related to San Francisco Bay shell mound culture known earlier only as prehistoric. Strong and Walker report their work will trace a rather well-established ethnological group from the historic into the pre-European period.

Mound explorations continued in a great many of the eastern and southeastern states. Earlier work of the University of Chicago, University of Minnesota, University of Michigan, University of Wisconsin and Milwaukee Public Museum was carried further in the Middle West. A pictorial survey of Mississippi valley archaeology was continued by the University of Chicago. T. Deuel published ''Basic Cultures of the Mississippi Valley'' (*American Anthropologist* 37:429-445), showing that sites ''group themselves into two large divisions,'' the Mississippi basic culture, related to the southeastern United States, and the Woodland basic culture.

Canada and Alaska.—T. Mathiassen, A. Hrdlicka, D. Leechman, F. de Laguna and J. Bird continued work in Canada and Alaska on Eskimo and other prehistoric sites. F. de Laguna's *Archaeology of Cook Inlet, Alaska* (University Museum Press) was ''the most complete and scientific report that has yet appeared on Alaskan archaeology'' (H. B. Collins in *American Anthropologist* 37:342).

Central America.—The extensive researches carried on in Mexico by the Carnegie Institution, Tulane University, University Museum, American Museum of Natural History on Maya, Aztec and associated cultures, and by G. C. Vaillant, J. E. Thompson, S. G. Morley, F. Blom, S. Linné, K. Ruppert, L. Satterthwaite and other investigators are too numerous and detailed to review briefly. Architectural analysis was used on Maya remains to aid in developing chronology. Northern Mexico received increasing attention (see D. Brand in *American Anthropologist* 37:287-305; and C. Sauer in *Ibero-Americana* No. 10). Archaeological research in Central America included such notable publications as S. B. and G. C. Vaillant, ''Excavations at Gualupita'' (*Anthropological Papers,* American Museum of Natural History 35:1-135), W. D. Strong, ''Archaeological Investigations in the Bay Islands, Spanish Honduras'' (*Smithsonian Miscellaneous Collections* 92 No. 14), and C. Osgood, ''Archaeological Problem in Chiriqui'' (*American Anthropologist* 37:234-243).

South America and Antilles.—H. J. Spinden communicated evidence of early prehistoric relations between Mexican and Peruvian civilizations and established, by stylistic considerations, the reality of the intermediate period of Maya archaeology. In Peru investigations were carried out by J. C. Tello and W. C. Bennett, the former linking pottery from the coast to lower levels at Tiahuanaco. J. Bird surveyed the whole coast of Chile to the Straits of Magellan and showed that the islands off the coast have always been uninhabited. In the Antilles, F. G. Rainey discovered and established the chronology of a highly developed pre-Arawak culture in Puerto Rico, hitherto unknown. (*Proceedings,* National Academy of Sciences 21:12-16)

ETHNOLOGY AND SOCIAL ANTHROPOLOGY

Field Research in North America.—Attention to fields other than the American Indian increased, but the bulk of ethnological work was done in North America. The basic effort of ethnology to record the culture of peoples inadequately known saw work done among the Apache (M. E. Opler) and Mohave (R. Underhill) of the southwest; the Makah (E. Gunther), Flathead (H. Turney-High), Kutenai (C. E. Schaeffer), Puyallup (M. Smith), Sahaptin (G. P. Murdock) and Coast Salish tribes (H. Barnett, D. Jenness) of the northwest; the Kiowa (A. Lesser, W. R. Bascom, D. Collier, R. W. La Barre, B. Mishkin, J. Richardson), Kiowa Apache (G. McAlister), Shoshone (E. A. Hoebel), and Cree (D. Mandelbaum) of the plains; the Paiute (W. Z. Park) of the Basin; the Carrier (I. Goldman) of western Canada, and the Montagnais (J. Lips) and Cree (R. Flannery) of eastern Canada. The demand for special information or more intensive data from tribes somewhat better known saw research done among the Hopi (E. Kennard), Apache (E. Rosenfels) and Navajo (L. C. Wyman, W. Dyk) of the southwest; the Pomo (B. Aginsky) and Karok of California; the Comanche (J. Mirsky), Cheyenne (E. A. Hoebel), Pawnee (G. Weltfish), Oto and Ponca (W. Whitman) of the plains; the Nootka (P. Drucker), Heiltsuk and Haisla (R. Olson) of the Northwest Coast; the Eyak (F. de Laguna) of Alaska; the Potawatomi and Santee Dakota (R. Landes), and Iroquois (W. Fenton) of the eastern Woodlands; and the Seminole (G. M. Stirling) of the southeast. In many cases investigators concentrated on special problems: E. A. Hoebel (Shoshone, Cheyenne) and J. Lips (Montagnais-Naskapi) on law; R. Flannery (Cree, Montagnais) and J. Mirsky (Comanche) on the status of women; G. McAlister (Kiowa Apache) and B. Aginsky (Pomo) on social organization; G. Weltfish (Pawnee) on economics; G. M. Stirling (Seminole) and E. Rosenfels (Apache) on problems of acculturation. E. W. Gifford, S. Klimek, P. Drucker, and H. E. Driver continued the use of element lists for distribution studies among California, southwest and Northwest Coast tribes.

Latin American research was not extensive. E. C. Parsons and C. W. Weiant worked in Mexico; P. Kirchoff, V. Petrullo and L. Korn among the Guajira of Venezuela and Colombia; C. Nimuendaju among Ges tribes of South America; J. Gillin among tribes of Ecuador and Peru; and G. Bolinder among tribes of Colombia.

Other Fields.—Outside the New World research by American ethnologists included work by R. Fortune in New Guinea; L. Tueting and B. Quain in Fiji; E. Beaglehole, E. S. Handy, and J. F. Stimson in Polynesia; F. Eggan in the Philippine Islands; and G. Schwab and W. D.

Hambly on tribes of Cameroon and Nigeria in Africa.

Publications.—Outstanding publications the past year were F. G. Speck's *Naskapi* (University of Oklahoma), the first authoritative monograph on the religion of Labrador peoples; W. D. Bennett and R. M. Zingg's *Tarahumara* (University of Chicago), a comprehensive monograph on a people from the little known area of northern Mexico; R. Redfield and Alfonso Villa's *Chan Kom, a Maya Village* (Carnegie Institution), which carried further studies of Mexican village life begun in Redfield's earlier *Tepoztlan;* M. J. and F. S. Herskovits' "Outline of Dahomean Religious Belief" (*Memoir 41*, American Anthropological Association), which clarified the problems of West African religion; M. Mead's *Sex and Temperament in Three Primitive Societies* (Morrow), in which behavior of men and women of Arapesh, Mundugumor and Tchambuli tribes of New Guinea is described against the contrasting cultural backgrounds to show that familiar patterns of sexual behavior are culturally determined; and R. F. Fortune's *Manus Religion* (American Philosophical Society), an extensive account of a primitive New Guinea religion in which patterns of social morality are supernaturally sanctioned.

Monographic publications on the southwest included E. C. Parsons, *Taos Pueblo* (General series in Anthropology 2); L. A. White, "Pueblo of Santo Domingo" (*Memoir 43*, American Anthropological Association); E. and P. Beaglehole, "Hopi of Second Mesa" (*Memoir 44*, idem); and A. L. Kroeber, editor, "Walapai Ethnography" (*Memoir 42*, idem). R. Underhill's *Southwest Indians* and R. L. Beals' *Ethnography of the Southwest* were useful general surveys prepared for the Office of Indian Affairs.

On other areas monographs included C. du Bois' "Wintu Ethnography" (University of California *Publications in American Archaeology and Ethnology* 36:1-148); R. H. Lowie's *Crow Indians* (Farrar and Rinehart) which made Lowie's classic data available in a connected treatment; and two volumes of new material on the Kwakiutl by F. Boas (Columbia University *Contributions to Anthropology* 20,26).

L. Spier's *Prophet Dance of the Northwest* (General series in anthropology 1) was a fresh and original study of an American Indian religious revival. Notable among shorter contributions were J. R. Swanton's summary of the ethnological problems of the "Cultural province of the southeast" (*American Anthropologist* 37:373-385); C. F. and E. W. Voegelin's clear analysis of "Shawnee Name Groups" (*idem* 37:617-635) which, though unformalized, resemble clan forms of eastern North America; studies by R. Linton and E. A. Hoebel of Comanche and Shoshone Sun Dance ceremonies (*idem* 37:420-428; 570-581); and J. Gillin's preliminary outlines of the "Social Life of the Barama River Caribs of British Guiana" (*Scientific Monthly* 1935, 227-236).

D. S. Davidson considered the relation of "Knotless Netting in America and Oceania" (*American Anthropologist* 37:117-134) with reference to problems of trans-Pacific influence, and continued studies of the material culture of Australia (*idem* 38:76-100). D. F. Thomson analyzed the "Joking Relationship and Organized Obscenity in North Queensland" (*idem* 37:460-490). E. M. Loeb's *Sumatra: its History and People* (Vienna) heralds the growing interest of American anthropologists in the cultures of Indonesia.

Folklore of American Indian tribes was published by D. Jenness from Carrier (*Journal of American Folklore* 47:97-257), A. B. Reagan and L. V. W. Walters from Hoh and Quileute (*idem* 46:297-346), F. G. Speck from Penobscot (*idem* 48:1-107), T. Adamson from the Coast Salish (*Memoir 27*, American Folklore Society), and F. Boas from Kwakiutl (Columbia University *Contributions to Anthropology* 26). R. Benedict's "Zuni Mythology" (*idem* 21, 2 v.), the most complete and systematic collection yet offered, includes an analysis of two basic problems: the relations of emphases in theme and plot to Zuni culture and the literary objectives of the Zuni story-teller. F. Boas offers a reconstruction of Kwakiutl culture based on Kwakiutl mythology (*Memoir 28,* American Folklore Society). A. H. Gayton compared the ''Areal Affiliations of California Folktales'' (*American Anthropologist* 37:582-599) in reference to historical problems. Important contributions on other areas were: E. C. Parsons ''Folklore of the Antilles'' (*Memoir 25,* American Folklore Society) and P. Radin's ''Historical Legend of Zapotec'' (*Ibero-Americana* 9).

Music.—Increasing attention to native music saw songs recorded among Cheyenne and Arapaho (F. Densmore), Kiowa (J. Richardson), Fox (M. Champion), Cherokee and Tutelo (F. G. Speck), and Shawnee (C. F. Voegelin) tribes. K. Dunham recorded West Indian Negro songs in conjunction with M. J. Herskovits' motion picture studies of Negro dancing. G. Herzog showed that ''Plains Ghost Dance and Great Basin Music'' (*American Anthropologist* 37:403-419) were basically related and that the Ghost Dance song style, alien to the Plains, must have been borrowed along with the Ghost Dance religion from the Basin. In ''Speech Melody and Primitive Music'' (*Musical Quarterly* 4:452-466) Herzog emphasized the relation of language patterns to song. Herzog's *Survey of the Fields of Primitive Music and Folk Music in the United States* (American Council of Learned Societies) was the first systematic treatment of musicology in America.

Methodology and Theory.—Issues raised by the apparent disjunction between historical and functional methods brought out discussion. A. Lesser in ''Functionalism in Social Anthropology'' (*American Anthropologist* 37:386-393) argued that functional or significant relations between aspects of culture must be defined by inductive methods which take account of historicity as a basic condition of all phenomena. A. R. Radcliffe Brown responded (''On the Concept of Function in Social Science'' *idem* 394-402) by restating his procedure of describing the functional relation of institutions to the ongoing or maintenance of the organic or structural unity of a society. In *Patterns of Culture* (Houghton, Mifflin) R. Benedict urged that, regardless of origins, institutions must be understood as relative to configurations into which they are molded. A. L. Kroeber's ''History and Science in Anthropology'' (*American Anthropologist* 37:539-570), attempting to define a difference between the historical method of Boas and historical reconstruction or description, suffered from basic ambiguities in concepts and terms.

A. R. Radcliffe Brown's ''Patrilineal and Matrilineal Succession'' (*Iowa Law Review* 20:286-303) and discussions by R. F. Benedict and P. Kirchoff imply fundamental revision of conceptions in the study of social organization. Brown and Benedict show that there is no literal bilaterality of descent in the so-called primitive bilateral family, but that inexplicit or explicit unilateral emphases are present which, under special conditions, become formal patterns of unilateral descent. Kirchoff redefines the clan as ''a social grouping determined by a conception of descent'' which broad conception makes possible the study of a wide range of clan forms as special developments determined by particular conceptions of descent, which in turn are related to basic social and economic conditions. A. L. Kroeber's ''Yurok and Neighboring Kin Term Systems'' (*University of California Publications in American Archaeology and Ethnology* 35:15-22) led Radcliffe Brown to renew attack upon Kroeber's conception of the linguistic determination of kinship terminological distinctions by restatement of the fundamental relation of such distinctions to social institutions (*American Anthropologist* 37:530-535), and B. Aginsky analyzed possible relations of ''Kinship Systems and Forms of Marriage'' (*Memoir 45,* American Anthropological Association).

Psychological problems of personality and abnormal behavior and their relation to culture received attention.

R. Benedict in "Patterns of Culture" suggests that normality and abnormality are conceptions which have meaning only in relation to the particular bent of a culture. E. Sapir made the molding of the individual personality a main focus of investigation in "Emergence of the Concept of Personality in the Study of Cultures" (*Journal of Social Psychology* 5:408-415) and other work. A. I. Hallowell (*Journal of Abnormal and Social Psychology* 29:1-9), J. M. Cooper (*idem* 29:10-17), and R. E. L. Faris (*idem* 29:30-31) considered problems of the relation of the incidence of mental disease to differences of culture. Related to this trend were M. J. Herskovits' "Freudian Mechanisms in Primitive Negro Psychology" (*Essays to C. G. Seligman* 75-84), W. W. Hill's "Hermaphrodite and Transvestite in Navaho Culture" (*American Anthropologist* 37:273-279), and M. Mead's consideration of the relativity of sexual behavior and temperament to cultural backgrounds (op.cit.). A. A. Brill and G. Zilboorg among psychiatrists recognized in discussions the relation of ethnological data to the problem of suicide.

Efforts of the Office of Indian Affairs to develop sound ethnological bases for Indian administration and the growing interest of sociologists in applying ethnological methods to study of modern communities, stimulated over-emphasis upon acculturation as a distinct field of study, which was signalized by R. Redfield, R. Linton and M. J. Herskovits' "Memorandum for the Study of Acculturation" (Man. 35, no. 162; *American Anthropologist* 38:149-152). Acculturation and assimilation studies are considerations of conditions of differing degrees of cultural instability and change, and used in conjunction with studies of conditions of cultural stability are finding their place in the analysis of cultural process.

The attention given to psychological, sociological, economic and legal problems indicated in the course of this review is clearly the growing trend in social anthropology and implies a more thorough cooperation with the other social sciences in coming years.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Anthropological Society, Inc., 11 East 45th Street, New York City.

American Genetic Assn., 306 Victor Bldg., Washington, D. C.

American Philosophical Society, 104 S. 5th Street, Philadelphia, Pa.

American Psychiatric Assn., 450 Seventh Ave., New York City.

American Psychological Assn., Univ. of Minnesota, Minneapolis, Minn.

American Psychopathological Assn., 520 Commonwealth Ave., Boston, Mass.

American Society for Physical Research, 15 Lexington Ave., New York City.

American Sociological Society, 1126 E. 59th St., Chicago, Ill.

Encyclopedia of the Social Sciences, 100 Morningside Drive, New York City.

National Committee for Mental Hygiene, 450 Seventh Ave., New York City.

National Institute of Social Sciences, 271 Madison Ave., New York City.

Psychological Corporation, 522 Fifth Ave., New York City.

PART SEVEN

THE HUMANITIES

DIVISION XXV

LITERATURE AND LANGUAGE

FICTION

By J. Donald Adams

Book Review Editor, *The New York Times*

GROWING TENDENCY TO INTERPRET AMERICA

American fiction in 1935 revealed even more clearly certain tendencies that were already apparent several years ago and which have been gaining steadily in strength. They are tendencies centering about the effort to picture and often also to understand and interpret the American scene, whether of the past or the present. Some novelists try to relate the two—to derive some ideal of conduct from the past which can be applied to the perplexities of the present. With few exceptions, the outstanding novels of 1935 fell into one of three groups: those which undertook to re-create an earlier period, sometimes merging into the present; those which aimed at a contemporary regional realism; and those concerned with current manifestations of social unrest. To put it succinctly, our more serious novelists have been thinking more and more about what life has meant or means now to the American people; they occupy themselves less and less with individual moral problems.

NOVELS OF THE CONTEMPORARY SCENE

Ellen Glasgow.—In the attention which they received, three of the year's novels stand apart from the rest. These were Ellen Glasgow's *Vein of Iron*, Thomas Wolfe's *Of Time and the River* and Sinclair Lewis's *It Can't Happen Here.* In one way or another each of these books exemplified the current tendencies. *Vein of Iron* (Harcourt, Brace) takes its place among the major works of one of America's most distinguished novelists. Its story was built about people of the Scotch-Irish stock which settled much of the back country of Virginia. The "vein of iron" from which the title derives is the quality of fortitude which was passed on from generation to generation, and which Miss Glasgow presents as the only enduring and sustaining value with which to confront life in any period.

Thomas Wolfe.—*Of Time and the River* (Scribner) is, like its predecessor, *Look Homeward, Angel,* autobiographical in content, and carries on the family chronicle begun in the earlier book. It is, essentially, the story of a young man's emotional response to life, but because of its author's intense national consciousness, it belongs in the main stream of contemporary American fiction. In its rhapsodical passages, Thomas Wolfe's concern with what America means to him is plainly evident. *Of Time and the River* was hailed in some quarters as a great novel; other critics, while granting Wolfe's immense vitality, maintained that he has not yet proved himself a disciplined artist.

Sinclair Lewis.—*It Can't Happen Here* (Doubleday, Page) was for the most part received as marking no advance in Sinclair Lewis's stature as a novelist, but as notable for its vigorous handling of a contemporary issue. It is perhaps best described as an impassioned and exciting piece of pamphleteering in fictional form. In it Mr. Lewis set himself to demonstrate that a fascist form of government might easily be imposed upon the United States, with consequences which should be deeply disturbing to all lovers of human liberty.

THE AMERICAN PAST

In the order of their appearance, the following were some of the novels which dealt wholly or chiefly with earlier periods of American life:

Edna Ferber's *Come and Get It* (Doubleday, Doran) opened in Wisconsin in the early years of the century and followed the fortunes of a wood pulp manufacturer and his family through the boom years of the twenties. Rachel Field, in *Time Out of Mind* (Macmillan) joined the group of novelists who have been celebrating the sturdy virtues of the men of Maine, and told the story of the rise and fall of a great shipbuilding family. George F. Hummel's *Heritage* is the leisurely and friendly chronicle of several generations on Long Island.

In *Roll River* (Scribner) James Boyd set his story in Pennsylvania, and through his account of the lives of two people of adjacent generations, aunt and nephew, undertook to show the values which each got from life. *A Few Foolish Ones* (Macmillan) was another Maine chronicle, in which Gladys Hasty Carroll pictured life in a rural community, beginning in the 1870's and coming down to the present, writing in evident admiration of those who resisted the currents of change and chose to stick to the land. Irving Bacheller's *The Oxen of the Sun* (Stokes) covered the period of the '70s and '80s and lamented the damage to the American character resulting from the unrestrained race for money and power.

Honey in the Horn (Harper) introduced a new novelist, H. L. Davis, who unfolded a racy episodic chronicle of Oregon homesteaders in the first decade of the century. Another newcomer, Edwin Lanham, in *The Wind Blew West* (Longmans, Green) told a robustly fashioned tale of Texas pioneers in the 1870's. *Hands* (Farrar & Rinehart) by Charles G. Norris, is a story of three American generations, pointed by the author's belief that what the country needs is a resurgence of the pioneering spirit. *Free Forester* (Little, Brown) by Horatio Colony, was another first novel dealing with a pioneer era, this time the period of Kentucky's settlement. Mary Ellen Chase, in *Silas Crockett* (Macmillan) wrote the story and celebrated the virtues of four generations or a Maine seafaring family.

Although Willa Cather's *Lucy Gayheart* (Knopf) does not strictly belong in this group, since its interest centers in an emotional situation, Miss Cather chose for its setting Nebraska and Chicago at the turn of the century. The same might be said of Harry Hansen's *Your Life Lies Before You* (Harcourt, Brace) a story of first love which evokes the atmosphere of a Mississippi river town of 30 years ago.

REGIONAL REALISM

There is no good reason why certain novels dealing with city life should not be described as regional. Among these was *Call It Sleep* (Ballou), a first novel by Henry Roth, which gave a brutally realistic picture of a New York ghetto childhood. In *Ollie Miss* (Stokes) a new Negro writer, George Wylie Henderson, described the life of his people in one of the sections of the Cotton Belt. In *Don't You Weep, Don't You Moan* (Macmillan) Robert Coleman wrote of the Charleston Negroes to whom we were first introduced in Du Bose Heyward's *Porgy*. Thomas W. Duncan, in *O, Chautauqua* (Coward, McCann) recaptured the flavor of that uniquely American institution which has played so great a part in the life of the Middle West. *Judgment Day* (Vanguard) by James T. Farrell, was the third volume of a trilogy which made an elaborate case study of the conditions under which a group of lower middle class Irish boys and girls grow to maturity in Chicago.

Second Hoeing (Putnam) was a first novel by Hope Williams Sykes which dealt realistically with the lives of Colorado beet pickers. In *Tortilla Flat* (Covici, Friede) John Steinback found fresh and amusing material in the manners and mores of a Californian mixed race community. *Valley People* (Reynal and Hitchcock) by Frances Marion recorded the impressions of a returning native among the people of a Californian rural region. *South* (Farrar & Rinehart), a first novel by Frederick Wight, affords an interesting and detailed view of a Southern city as reflected through the eyes of a Northerner. Marjorie Kinnan Rawlings, in *Golden Apples* (Scribner) made another excursion into the lives of the Florida crackers who were first portrayed by her in *South Moon Under.*

Maine was the subject of another regional picture in Robert T. P. Coffin's *Red Sky in the Morning* (Macmillan) which dealt with the present generation of a long line of seafaring people. In *Butterfield 8* (Harcourt, Brace) John O'Hara wrote a hard-boiled study of speakeasy frequenters in the closing years of the prohibition period. The natives of a Tennessee hill town were treated with humorous naturalism in *Fish on the Steeple* (Farrar & Rhinehart), a first novel by Ed Bell.

NOVELS OF SOCIAL UNREST

The number of novels devoted to one phase or another of contemporary social unrest was larger than in any previous year. Some of these novels, like Thomas Boyd's *In Time of Peace* (Minton, Balch) undertook to picture the bewilderment of young men in the confused world of the depression years, while others dealt directly with the theme of industrial conflict or incipient class warfare. Elizabeth Madox Roberts, one of America's front-rank novelists, tried in *He Sent Forth a Raven* (Viking) to come to grips with the underlying problem of individualism *versus* communal well-being.

Louis Adamic's autobiographical *Grandsons* (Harper) was another rendering of the confusion of the post-war years, as seen through the eyes of a boy of immigrant stock. In *Talk United States!* (Smith & Haas) Robert Whitcomb, writing in the vernacular, described the growing class consciousness of a young American worker. Edward Anderson's *Hungry Men* (Doubleday, Doran) described the drifting, jobless men of the depression. These three were all first novels.

Jack Conroy, in *A World to Win* (Covici, Friede) attempted a sort of allegory of the common cause of the worker and the intellectual, from a definitely communistic viewpoint. Robert Rylee, in *Deep Dark River* (Farrar & Rinehart) wrote a first novel dealing with the awakening class consciousness of the Southern negro. Walter Havighurst's *Pier 17* (Macmillan) told the story of a West Coast waterfront strike. In *Chance Has a Whip* (Scribner) Raymond Holden, another new writer, described the ineffectual effort of a liberal minded industrialist to deal with labor dissatisfaction.

In *This Body the Earth* (Harper) Paul Green described the dilemma of the Southern share cropper. Fielding Burke, in *A Stone Came Rolling* (Longmans, Green) wrote of industrial unrest in a Southern mill town. Grace Lumpkin's *A Sign For Cain* (Furman) had for its thesis the bond of common interest between the Negroes and the poor whites of the South. *Marching! Marching!* (John Day) a first novel by Clara Weatherwax, was a strike story set in a Northwest coast lumber town.

MISCELLANEOUS AMERICAN FICTION

There remain the novels which do not fall into any one of the three groups which have already been listed. These include Thornton Wilder's *Heaven's My Destination* (Harper), a strange moralistic fable which recounted the adventures of an impossibly righteous young man who determinedly went about the country doing good. Pearl Buck's *A House Divided* (John Day) concluded the trilogy of Chinese life of which *The Good Earth* and *Sons* were the first and second parts. *We Are Betrayed* (Doubleday, Doran) was the third volume of a tetralogy in which Vardis Fisher has been recording the slow and difficult approach to maturity of a sensitive youth.

In *Road of Ages* (Knopf) Robert Nathan conceived of the Jewish people, banished from all lands, trekking across Europe to a last refuge in the Gobi Desert. Paul Horgan's *No Quarter Given* (Harper) was the portrait of a genius. John Peale Bishop's *Act of Darkness* (Scribner) was another study of adolescence. William Faulkner, in *Pylon* (Smith and Haas) told the story of a barnstorming air-race pilot. Louis Bromfield, in *The Man Who Had Everything* (Harper) wrote of a successful playwright's unhappy personal life.

In *Paths of Glory* (Viking) a new writer, Humphrey Cobb, produced a forceful and unusual story of the war. *They Shoot Horses, Don't They?* (Simon & Schuster), a first novel by Horace McCoy, was a hard-boiled tale of a marathon dance contest, centering in the tragic end of two of the participants. McKinlay Kantor, in *The Voice of Bugle Ann* (Coward McCann) told a dog story which rose above the usual level of such tales. William McFee's *The Beachcomber* (Doubleday, Doran) was the story of a sea captain who lost his command because of one woman and was unable to make a come-back through his love for another. Nathalie Colby, in *For Life* (Morrow), wrote of a woman's enduring love. Conrad Aiken, in *King Coffin* (Scribner) did a psychological study of a megalomaniac.

Morley Callaghan's *They Shall Inherit the Earth* (Random House) was primarily a study in an aborted father and son relationship. Branch Cabell, in *Smith: A Sylvan Interlude* (McBride) produced the second volume of a dream world trilogy. Margaret Ayer Barnes in *Edna His Wife* (Houghton, Mifflin) drew the portrait of a woman who proved an inadequate partner in her marriage. Bertita Harding's *Royal Purple* (Bobbs Merrill) told the story of Alexander and Draga of Serbia. T. S. Stribling's *The Sound Wagon* (Doubleday, Doran) was a story of political corruption. In *If I Have Four Apples* (Stokes) Josephine Lawrence drew the portrait of an American family holding precariously to its place in the white-collar class by living beyond its means.

BRITISH FICTION

British novels published in the United States during 1935 did not show the clear-cut tendencies evident in our own fiction. There were, to be sure, several novels dealing with industrial unrest, and one of these, A. J. Cronin's *The Stars Look Down* (Little Brown) was the best received British novel of the year. But in general there was no discernible pattern.

The more notable titles included: *The World Went Mad* (Macmillan) by John Brophy; *Highland Night* (Harcourt, Brace) by Neil Gunn; *One Light Burning* (Farrar & Rinehart) by R. C. Hutchinson; *The Time is Ripe* (Doubleday, Doran) by Walter Greenwood; *Shining and Free* (Knopf) by G. B. Stern; *The Poacher* (Macmillan) by H. E. Bates; *The Son of Richard Carden* (Little, Brown) by Neil Bell; *Blind Men Crossing a Bridge* (Stokes) by Susan Miles; *Grey Granite* (Doubleday, Doran) by Lewis Grassic Gibbon; *Dew in April* (Kendall) by John Clayton; *Love in Winter* (Knopf) by Storm Jameson; *National Velvet* (Morrow) by Enid Bagnold; *Ripeness Is All* (Farrar & Rinehart) by Eric Linklater; *Diary of a Pensionnaire* (Harper) by Martin Hare; *A Silver Rattle* (Little, Brown) by Sylvia Thompson; *Three Englishmen* (Dutton) by Gilbert Frankau; *The Dark Glass* (Knopf) by March Cost; *Landtakers* (Farrar & Rinehart) by Brian Penton, and *The Furys* (Macmillan) by James Hanley.

Also *Illyrian Spring* (Little, Brown) by Ann Bridge; *We, the Accused* (Stokes) by Ernest Raymond; *The Inquisitor* (Doubleday, Doran) by Hugh Walpole; *Richard Savage* (Viking) by Gwyn Jones; *Europa* (Scribner) by Robert Brittault; *Jake* (Macmillan) by Naomi Royde-Smith; *The Root and the Flower* (Harcourt, Brace) by L. H. Myers; *White Ladies* (Harper) by Francis Brett Young; *This Bed They Centre* (Harcourt, Brace) by Pamela Johnson; *The Seven Arms* (Knopf) by L. A. G. Strong; *The Days Dividing* (Little, Brown) by Neil Bell; *Forsytes, Pendyces and Others* (Scribner) by John Galsworthy; *Beany-Eye* (Harcourt, Brace) by David Garnett; *Selina* (Harper) by Sheila Kaye-Smith; *Hester and Her Family* (Holt) by H. W. Freeman; *Victorious Troy, or the Hurrying Angel* (Macmillan) by John Masefield, and *Gold of Toulouse* (Kendall) by John Clayton.

TRANSLATIONS

The more noteworthy translations of European novels were: *The People of Juvik* (Knopf) by Olav Dunn; *The Royal Way* (Smith & Haas) by André Malraux; *Young Joseph* (Knopf) by Thomas Mann; *The Vortex* (Putnam) by José Eustacio Rivera; *Condemned to Live* (Doubleday, Doran) by Johan Rabener; *The Other World* (Viking) by Madeleine Lulofs; *The Unknown Quantity* (Viking) by Hermann Broch; *The Loom of Justice* (Putnam) by Ernst Lothar; *The Wolf at the Door* (Harper) by Robert Francis; *Cat Across the Path* (Lippincott) by Ruth Feiner; *Pro Patria* (Houghton, Mifflin) by Ramon J. Sender; *The World From Below* (Knopf) by Jules Romains; *Mottke the Thief* (Putnam) by Sholem Asch; *The Last Civilian* (McBride) by Ernst Glaeser; *Meteor* (Putnam) by Karel Capek; *Express to the East* (Smith & Haas) by A. den Doolard; *Seeds of Tomorrow* (Knopf) by Mikhail Sholokhov; *The Fortunes of the Pasquiers* (Harper) by Georges Duhamel; *The Virgin of Skalholt* (Little, Brown) by Gudmundur Kamban; and *Ivalu: The Eskimo Wife* (Furman) by Peter Freuchen.

THE SHORT STORY

The outstanding volumes of short stories included *The Little Wife and Other Stories* (Smith & Haas) by William March; *The Doctor's Son and Other Stories* (Harcourt, Brace) by John O'Hara; *Taps at Reveille* (Scribner) by F. Scott Fitzgerald; *Winning a Wife and Other Stories* (Coward, McCann) by Peter Neagoe; *Time: the Present* (Simon & Schuster) by Tess Slesinger; *Kneel to the Rising Sun* (Viking) by Erskine Caldwell; *Selected Short Stories of Sinclair Lewis* (Doubleday,Doran); *Feliciana* (Scribner) by Stark Young; *My Own, My Native Land* (Doubleday, Doran) by Thyra Samter Winslow; *Winter Orchard and Other Stories* (Simon & Schuster) by Josephine Johnson; *All the Young Men* (Houghton Mifflin) by Oliver La Farge; *Guillotine Party and Other Stories* (Vanguard) by James T. Farrell; *Flowering Judas and Other Stories* (Harcourt, Brace) by Katherine Anne Porter; *From Death to Morning* (Scribner) by Thomas Wolfe, and *Mr. White, the Red Barn, Hell and Bridewater* (Doubleday, Doran) by Booth Tarkington.

Rebecca West's *The Harsh Voice* (Doubleday, Doran) was the most notable collection by an English writer offered to American readers. The outstanding titles among the translations were *The Eleaghin Affair and Other Stories* (Knopf) by Ivan Bunin; *Marianne in India* (Viking) by Lion Feuchtwanger; and *Playthings of Time* (Viking) by Arnold Zweig.

POETRY

BY PETER MONRO JACK

WRITER AND CRITIC

COLLECTIONS AND SELECTIONS

American.—A limited edition of 131 hitherto unpublished poems of Emily Dickinson, edited by Martha Dickinson Bianchi and Alfred Leete Hampson (Little, Brown), are more personally revealing than anything yet published. *Selected Poems* by Marianne Moore are mainly from *Observations*, but with recent poems, selected and edited by T. S. Eliot, with an important introduction on the nature of poetry (Macmillan). *Chosen Poems* by Harriet Monroe, a selection that covers 40 years of verse-writing by the founder-editor of *Poetry: A Magazine*, includes four short plays (Macmillan). *Selected Poems* by Robert Nathan are from his magazine writing (Knopf). The annual selection of the best poems of 1935 by Thomas Moult from American and English magazines includes poems by Aiken, Fletcher, Frost, Day Lewis, William C. Williams (on D. H. Lawrence) and others (Harcourt, Brace).

English.—The poems of the Northamptonshire peasant-poet, John Clare, (1793-1864) are edited in two volumes by J. W. Tibble, with an introduction. This is the bulk of Clare's work, for the first time published, carefully edited, with textual notes and glossary (E. P. Dutton). The edition of W. H. Davies contains the whole of the *Collected Poems* of 1928, with all the subsequent poems (*Ambition*, 1929, *Poems*, 1930-1931, *Birds*, 1933, and *My Garden*, 1933). These brief and lovely lyrics by the author of *The Autobiography of a Super-Tramp* have been compared with the Elizabethan songbooks (Oxford University Press). The *Poems* of Richard Aldington represent some 13 volumes published since 1912 when Aldington was associated with the imagists. There are many hitherto unpublished poems and a new introduction by the author on his poetic career (Doubleday, Doran). A new volume, *Life Quest* (Doubleday, Doran) is described by the author as "a loose string of moods and meditations"; these variations on the theme of the life quest (the reference is from Sir G. Elliot Smith's *Human History*) make a more simple and clearly articulated attitude than Aldington has achieved.

Day Lewis, with W. H. Auden and Stephen Spender, represents the best of the younger English poetry. His essay in *Collected Poems and A Hope for Poetry* explains the influences that he and his friends have undergone, and their hope for a new social organization (Random House). *Poems 1914-1934* by Herbert Read is an American edition of Read's English collected poems, with revisions and additions. They develop from imagistic poems through war poems and post-war metaphysics to something approaching the technique of the pre-communist poets, thus showing clearly the changes in contemporary poetry (Harcourt, Brace). Of the *Selected Poems* of AE (the late George Russell) the author says: "They are my choice out of the poetry I have written." This last selection is published by Macmillan. *A Kipling Pageant* (Doubleday, Doran) contains, besides the prose, all of Kipling's best known poems, from 1886 to 1928. The Oxford University Press has published an *Oxford Anthology of English Poetry*, edited by Professors Lowry and Thorp.

CONTINUATIONS

Edwin Arlington Robinson.—Robinson's last poem, posthumously published, is called *King Jasper*, a modern satirical comedy of manners, with an introduction by Robert Frost (Macmillan).

Edgar Lee Masters.—The title poem of *Invisible Landscapes* is one of Master's best poems since the success of *Spoon River Anthology*, characteristic of his attachment to nature and tradition, their recurrence and persistence. The finest of the other poems are on his familiar Illinois, or other returns to the American landscape and to its spiritual meaning (Macmillan).

John Gould Fletcher.—This poet, who began as an imagist in association with Amy Lowell, is now writing verse of grave, meditative beauty, in *XXIV Elegies* (Writers Edition, Santa Fe, N.M.), which present various scenes and symbols from London, Paris and New York suggestive of the post-war period, and of Fletcher's personal reaction—disillusion with the present and a vague hope for the future, most fittingly expressed in the last poem, "Elegy for all the Dead, 1914-1918".

John Neihardt.—*Song of the Messiah:* this is the fifth and final volume (the fourth is still to be written) of Neihardt's epic of the West, here dealing with the Sioux massacre of 1890 (Macmillan).

Robinson Jeffers.—In *Solstice and Other Poems* (Random House) Jeffers makes clear his philosophical attitude. The title poem is in line with his Californian melodramas of love and violence, but the longest poem, "At the Birth of an Age", an epic drama from the closing chapters of the Niblung Saga, shows, in Gudrun's nature, the self-contradiction and self-frustration that the author takes to be characteristic of this (the Christian) "culture-age": torn between Christian and pagan virtues.

Conrad Aiken.—*Landscape West of Eden,* a difficult poem, uses the dream mechanism to contrast man's human nature with his heavenly intimations (Scribner's).

Lola Ridge.—Miss Ridge, who holds a Guggenheim fellowship and is at present writing in Mexico, has advanced an obscure symbolism in *Dance of Fire* (Smith and Haas). The first part, "Via Ignis", is a collection of 28 loosely written sonnets designed to show humanity being tempered by fire. The other poems use Saccho, Vanzetti, Mooney, and Van Der Lubbe as symbols in the progress toward freedom.

Horace Gregory.—*Chorus for Survival* (Covici, Friede) contains idealistic poems of America's past and future, with bitter and angry, or elegiac and sympathetic notations of contemporary life in between. The verse is poetically intelligent, and the hope is for a collective society.

Joseph Auslander.—*No Traveller Returns* (Harper) comprises Auslander's best poems from the last six years and gives full measure of his lyrical, witty and virtuoso talent.

Theodore Dreiser.—Dreiser is best known for his novels, but there is a more personal utterance of his rather saddened philosophy in *Moods, Philosophic and Emotional, Cadenced and Declaimed* (Simon & Schuster).

Mark Van Doren.—In *A Winter Diary and Other Poems* Van Doren continues his meticulous observation and graceful expression of nature's moods.

William Rose Benét.—*Golden Fleece* is a collection of Benét's highly rhythmical poems, with a dozen new pieces (Dodd, Mead).

Wallace Stevens.—The witty, elegant, and always distinguished poems of Stevens are little known, but one of his best collection is in *Ideas of Order* (Alcestis Press) in which he imposes an aesthetic order on difficult emotions and ideas.

Winifred Welles.—In *A Spectacle for Scholars* Miss Welles deals narratively with certain characters, with charm and some metrical skill (Viking Press).

POETRY IN PLAYS

W. B. Yeats.—The *Collected Plays,* (Macmillan) all of which have been performed at the Abbey Theatre, Dublin, are the high mark in Irish-English poetic drama. Four new plays, *Wheels and Butterflies,* have been published, with an introduction and prefaces. Two of these, "The Words upon the Window Pane" and "The Resurrection" have already been played here by the Abbey Theatre Players. A third, "Fighting the Waves" has music composed by the American musician, George Antheil (Macmillan). Also published by Macmillan is *The King of the Great Clock Tower,* a short poetic play in a volume that also contains poems and commentaries.

T. S. Eliot.—*Murder in the Cathedral* (Harcourt, Brace) is a dramatization of the murder of St. Thomas á Becket in Canterbury (it was played at Canterbury during the year, and later in London) with choral interludes.

Archibald MacLeish.—His play in verse, called *Panic*, was produced at the Imperial Theatre by the Phoenix Stage Society on March 14 and 15, with Rose McClendon, and "movement" by Martha Graham. It concerns the panic of the bankers toward the end of the Hoover Administration. The play was badly received by the critics while it was praised by the *New Masses*, and the verse generally was liked by the reviewers (Houghton, Mifflin).

W. H. Auden.—His play, *The Dog Beneath the Skin, or Where is Francis?*, written in collaboration with Christopher Isherwood, the novelist, was produced in London by Tyrone Guthrie and promised for production in America. It is a burlesque journey through contemporary Europe with a satirical intent but commented on by a chorus of serious and beautiful verse. It ends in a hopeful note of regeneration (Random House).

Countee Cullen.—Euripides's *Medea* has been written over by Cullen for production by Rose McClendon and music by Virgil Thompson. The dialogue is very colloquial prose but the choruses are in verse, and the story is changed to suit the audience (Harper).

E. E. Cummings has done a ballet called *Tom* (Arrow Edition) based on H. B. Stowe's *Uncle Tom's Cabin*, mainly a scenario.

NEW WRITERS

Muriel Rukeyser.—The most praised volume of the younger writers is Miss Rukeyser's first book, *Theory of Flight* (Yale) chosen as the 1935 volume in the Yale Series of Younger Poets. The poems are a vigorous expression of a proletarian point of view, narrating the change from personal introspection to an "outward" social direction, with much imagery from aviation. The book is introduced by Stephen Vincent Benét.

Kenneth Fearing.—Fearing has also produced a distinctive book of poems (his second) expressing his distaste for present social conditions, in *Poems* (Dynamo), mostly satiric, sardonic, and declamatory, with a very effective, original jargon. The book is introduced by Edward Dahlberg.

Forrest Anderson.—*Sea Pieces and Other Poems* (Cassowary Press) contains interesting but oblique and reticent poems on ships and sailors and Anderson's complicated emotional reactions.

Willard Maas.—This first book is technically interesting verse, *Fire Testament* (Alcestis Press) and has an introduction by S. Foster Damon. The themes are underdeveloped, but there is a suggestion, at the end, of an awareness of social change.

Archibald Fleming. — Archibald MacLeish introduces a first book of poems, *The Island Called Pharos*, in the belief that the author will achieve distinguished work (Liveright).

Audrey Wurdemann.—*The Seven Sins* contains seven dramatic poems by the 1934 winner of the Pulitzer prize for poetry (Harper).

Lincoln Kirstein.—The influence of the newer English poets (especially Spender) is seen in *Low Ceilings* (Putnam) difficult but intelligent poetry.

Anthology.—The unusual anthology, *Trial Balance*, edited by Ann Winslow, comes from her work with college poetry and is chosen from "College Magazine" which she edits. The work of 32 poets is shown (none over twenty-five) and each is accompanied by a critical introduction. Here is seen the work of the youngest generation, and it is noteworthy that their work is positive, promising, and technically very good.

Poetry Magazine Prizes.—The year's prizes for poetry published in *Poetry: A Magazine* (Chicago) have been awarded to Mary Barnard, of Vancouver, Wash., Winfred Townley Scott, of Providence, R. I., C. A. Millspaugh, of Muncie, Ind., and "A Young Poet's Prize" to Harry Brown, of Portland, Me., whose poems are interesting.

NEW ENGLISH VERSE

Laurence Whistler.—The first award of the King's Medal was given to Whistler's second book, *Four Walls* (Macmillan) by a committee of Masefield, De la Mare, Laurence Binyon, Gilbert Murray and I. A. Richards. The poems are traditional in theme and fairly modern in treatment, lyrical generally, but one poem, "The Burial", possibly of the funeral of Lenin, particularly impressed the judges.

Stephen Spender.—The long poem, *Vienna* (Random House) concerns the betrayal and murder of the Viennese Socialists in January, 1934, inadequately dramatized by a naturally lyrical poet.

Thomas McGreevy.—Short, difficult, but very intelligent poems by an Irish Catholic resident in Paris, and under the influence of Eliot and Joyce (*Poems.* Viking Press).

Frances Cornford.—A further selection from Mrs. Cornford's charming evocations of English landscape, with woodcuts by Gwen Raverat (*Mountains and Molehills.* Cambridge Univerity Press).

LIGHTER VERSE

Louis Kronenberger's *Anthology of Light Verse* (Modern Library) is an expert selection, from Herrick and Dryden to Dorothy Parker and Ogden Nash, of wit and humour in rhyme and rhythm. *The Primrose Path* (Simon & Schuster) by Ogden Nash with illustrations by Soglow, is a pleasant, though unequal continuation of the most sensibly satirical verse of today. The *Guest Book* of Witter Bynner (Knopf) is an amusing account, in quasi-sonnet form, of various types of guests one plays host to. *Cat-Calls* by Peggy Bacon is illustrated by the author and together the drawings and verse make a clever sort of satire, chiefly of recognizable types (McBride). In *Death and General Putnam,* Arthur Guiterman is rather more serious than usual. The title poem was printed in F. P. A.'s column in the *Herald-Tribune* and became immediately popular (E. P. Dutton). In *A Mad Lady's Garland* (Macmillan) Ruth Pitter shows how fine is her wit and how ingeniously she can rhyme. The *New Yorker Book of Verse* (Harcourt, Brace) has 300 poems and 80 contributors, and covers 10 years of the delightful light verse printed by this magazine.

HISTORY

By Henry Steele Commager

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SCHOLARSHIP AND THE CONTEMPORARY SCENE

A noteworthy characteristic of the historical scholarship of the year 1935 is the emphasis upon the contemporary scene. Historical scholarship is not divorced from current political or sociological considerations, and students have been much concerned with explaining the origins and analyzing the nature of political, constitutional, economic and social crises that have forced themselves upon public consciousness. Much of this literature falls into the departments of economics and sociology rather than of history, and much has been presented in the form of biography. The subjectivity of history, its close dependence upon and relation to the climate of contemporary opinion, is abundantly illustrated by the literature of the last year.

AMERICAN SOCIETY

The current interest in American institutions is likewise reflected in the historical literature of the year. Historians have been anxious to discover and to celebrate what is authentically American, and there has been a reaction in favor of a nationalistic interpretation of America's past. One phase of this interest is presented in the literature upon the homelier institutions—covered bridges, patchwork quilts, folk literature, and so forth. Another phase is presented in the continued emphasis upon regionalism. While the literature on regionalism is neither as large nor as distinguished as that of 1934, it is nevertheless significant.

SOURCE MATERIAL

The responsibility for the publication of source material continues to be assumed by non-commercial press and by governments, state and Federal. The last year witnessed the continuation of the *Records of Civilization Series* (Columbia), the *Overland to the Pacific Series* (Colorado College and Denver Public Library), *Studies in the History of American Agriculture* (Columbia), the *Hoover War Library Series* (Stanford University), and the inauguration of the *Naval Records Series* (United States Printing Office).

THE LARGER COOPERATIVE WORKS

Of the larger cooperative works there appeared Volumes XV, XVI, and XVII of the *Dictionary of American Biography* (Scribner), embracing Platt to Roberdeau, Robert to Seward, and Sewell to Stevenson. The monumental *Encyclopaedia of the Social Sciences* (Macmillan) inaugurated some years ago, was brought to completion. Both of these great cooperative works compare favorably with similar cooperative works in English or in other languages.

AMERICAN PICTORIAL HISTORY

The fashion of photographic histories and narratives which began some years ago, has continued unabated. *The American Scene, as Depicted by Stanley Arthurs* (University of Pennsylvania) presents a series of episodes from American history illustrated by the brush of the distinguished painter, Stanley Arthurs. The volume is more valuable for its illustrations than for the comment which accompanies them. *The Story of America in Pictures* (Doubleday) ed. by Alan C. Collins and with an introduction by Claude Bowers, consists for the most part of photographic illustrations of American history, with particular emphasis upon wars and upon events of the last 30 years. The photographs leave much to be desired both as to standards of selection and as to quality; the comment is accurate but brief. *The Roosevelt Omnibus,* ed. by Don Wharton (Knopf), is valuable chiefly for its well-selected pictures, though the text is not without interest.

THE INDIANS

The literature on the native races of America was small but valuable, and the University of Oklahoma Press continues to hold its commanding position as the organ of those interested in the American Indian. J. Leslie Mitchell's *Conquest of the Mayas* (Dutton) subscribes to the diffusionist theory of the origin of American cultures and supports the theory of the Asiatic origin of Maya culture. Robert Lowie, who has written much on Indians, has now given us an invaluable history of the *Crow Indians* (Farrar and Rinehart). Frank G. Speck's *Naskapi* (U. of Oklahoma) is an account of the ethnology, folk lore and history of the Indians of Labrador. Elaine G. Eastman's *Pratt, the Red Man's Moses* (U. of Oklahoma) tells the story of the founding and history of the Carlisle school for the Indians.

SPAIN IN AMERICA

The year witnessed a surprising number of volumes devoted to the history of the Spanish colonial period. Philip A. Means' *The Spanish Main: Focus of Envy* (Scribner) tells the story of international rivalry for the control of America from 1492 to 1700. Two volumes of the *Pioneer Histories* dealt with Spanish activities: F. A. Kirkpatrick's *Spanish Conquistadores* (Macmillan) and J. C. Beagelhole's *Exploration of the Pacific* (Macmillan); both maintained the high standards of scholarship and literary excellence established by this series. Alfred B. Thomas' *After Coronado* (U. of Oklahoma) consists largely of documents of the exploration of the Southwest. John Tate Lenning's *Spanish Missions of Georgia* (U. of N. C.) is valuable for the seventeenth and eighteenth centuries.

THE ENGLISH COLONIES

Three volumes of documentary material illuminated different phases of American colonial history: Susan Kingsbury ed. *Records of the Virginia Company,* Vol. 3 (Government Printing Office), Isabel M. Calder, *Colonial Captivities, Marches and Journeys* (Macmillan), and *The Correspondence of Maria Van Rensselaer, 1669-1689,* ed. by A. J. F. van Laer (Univ. of the State of New York). George F. Dow's *Everyday Life in Massachusetts Bay Colony* (Soc. for Preservation of New England Antiquities) is a thoroughly scholarly work by one of the foremost authorities on New England history. James J. Burns' *Colonial Agents of New England* (Catholic U. of Am.) assembles interesting material on the institution of the colonial agent. S. E. Morison's *Founding of Harvard College* (Harvard) combines authoritative scholarship with incomparable literary skill and sets a new standard for college histories. Two volumes dealt with the economic history of colonial New York: Samuel McKee's *Labor in Colonial New York, 1664-1776* (Columbia) and Virginia Harrington's *New York Merchant on the Eve of the Revolution* (Columbia).

THE AMERICAN REVOLUTION

The activities of patriotic societies and the interest in the origins of our constitutional institutions has not reflected itself in the literature on the Revolution and the Constitution; little has been published in this field that commands the attention of the student. In *Revolution and Freemasonry, 1680-1800* (Little, Brown), Bernard Fay propounds the curious thesis that the American Revolution was the result of Masonic activities, but he fails to substantiate his theory, Jennings B. Sanders' *Evolution of the Executive Departments of the Continental Congress, 1774-1789* (U. of N. C.) is specialized but useful. Considerable new light is thrown on the diplomacy of the Revolution by Samuel F. Bemis' *Diplomacy of the American Revolution* (Appleton-Century) and by Frank Monaghan's charming and scholarly *John Jay* (Bobbs-Merrill). In *Lafayette Comes to America* (U. of Chicago) Louis Gottschalk punctures some Lafayette legends without seriously impairing the reputation of the young adventurer. Victor F. Paltsits' *Washington's Farewell Address* (New York Public Library) is a definitive history of that controversial subject.

MIDDLE PERIOD OF AMERICAN HISTORY

Even more astonishing than the apparent lack of interest in the Revolutionary period is the waning interest in the Middle Period of American History. Yet it should be noted that much valuable material is presented in the form of biography rather than of history; Carl Swisher's *Roger B. Taney* (Macmillan), for example, transcends the biographical limitations of its title and constitutes a history of the Jackson Administrations. In the strictly historical field, the most notable book is the posthumous work by F. J. Turner, *The United States, 1830-1850* (Holt) This book contains not only a detailed analysis of the major sections but a narrative political and economic history of the period. It is characterized by those qualities which students have long associated with the work of this leading historian: scholarship, detail, and insight. *The Letters of Theodore Dwight Weld, Angelian Grimke Weld and Sarah Grimke, 1822-1844* (Appleton-Century), ed. by Gilbert H. Barnes and Dwight Dumond, is invaluable for the study of the origins and character of abolition of slavery in the United States.

CIVIL WAR AND RECONSTRUCTION

The drama and color of the Civil War period continues to attract students and editors, but nothing comparable to the books of Freeman and of Milton has been published this year. Fletcher Pratt's *Ordeal by Fire: the Iron Age of the Republic* (Smith and Haas) is a brilliantly written but spotty interpretation of the Civil War. Jim Dan Hill's *Sea Dogs of the Sixties* (U. of Minnesota) presents the naval history of the war in eight biographical sketches. Two books on Lincoln command attention: Roy Basler's *The Lincoln Legend* (Houghton) and R. R. Wilson's *Lincoln in Portraiture* (Press of the Pioneers). Howard Swiggett has edited a new edition of the famous *Rebel War Clerk's Diary,* 2 vols. (Old Hickory Bookshop); the editorial work is thoroughly satisfactory. In the field of Reconstruction, J. E. B. Du Bois' long-awaited *Black Reconstruction* (Harcourt) commanded instant attention from every student of this period. Professor Du Bois has here challenged the traditional interpretations of the reconstruction era and advanced one of his own. His most interesting thesis is that concerned with the constructive side of black reconstruction, and this thesis is confused rather than clarified by the injection of Marxist interpretations of the struggle. A. B. Williams' *Hampton and his Red Shirts* (Walker, Evans and Cogswell) retells the dramatic story of the redemption of South Carolina from black reconstruction, and the South Carolina situation is presented in a new edition of James K. Pike's *Prostrate State* (Loring and Mussey) ed. by Henry S. Commager, Biographies of *L. C. Q. Lamar* by W. A. Cate (U. of N. C.), *U. S. Grant* by W. B. Hesseltine (Dodd, Mead) and *Roscoe Conkling* by D. B. Chidsey (Yale Press) throw some light on the Reconstruction period.

RECENT AMERICAN HISTORY

The last quarter of the Nineteenth Century continues to be that most seriously neglected by students of American history and that which might furnish data of most significance. A number of students have concerned themselves with the Twentieth-century background of contemporary problems. Frederick Lewis Allen's *Lords of Creation* (Harper) takes up the story of big business where Mathew Josephson's *Robber Barons* left off. In *The Twenties* (Scribner), Mark Sullivan concludes his fascinating history of Our Times. This volume, perhaps the least satisfactory of the six which Mr. Sullivan has given us, is valuable chiefly for reminding us of the songs, moving pictures, books, fashions, and sporting events that attracted our attention a decade ago. *In America Strikes Back* (Washburn) Gustavus Myers describes corruption and malpractices in European States and argues the impertinence of European criticism of the United States. M. R. Werner's *Privileged Characters* (McBride) deals with the corruption of business and government during the Harding-Coolidge Administrations. J. T. Slater's *Boss Politics: Portraits in City Politics* (Whittelsey House) is an analysis of political machines in the major American cities. Roy Peel and Thomas Donnelly, in *The 1932 Campaign* (Farrar and Rinehart), have written a useful handbook of that campaign modelled on the lines of their earlier *1928 Campaign.*

CONSTITUTIONAL HISTORY

The most important book in the field of constitutional history is Professor A. C. McLaughlin's masterly *Constitutional History of the United States* (Appleton-Century), a book characterized by learning and wisdom, scholarship and impartiality, and written with considerable literary grace. It gives more attention to the origins of American constitutionalism than to the more recent period and is not adequate for the Twentieth Century. Two volumes present to the public the most recent addition to the Supreme Court: Oscar S. Cox, *The Philosophy of Mr. Justice Cardozo* (Macmillan), and Joseph P. Pollard, *Mr. Justice Cardozo.* (Yorktown Press).

FOREIGN AFFAIRS

The study of American diplomacy has been carried on largely from the viewpoint of the present and with the purpose of understanding the problems of neutrality. Charles S. Hyneman, *First American Neutrality* (U. of Illinois) presents the historical background of this question which is agitating the public mind at the present time. Albert K. Weinberg's *Manifest Destiny* (Johns Hopkins) is a thorough, scholarly and provocative history of national expansion in the

United States; it is inadequate only in the presentation of the anti-imperalist position. R. B. Mowat's *Americans in England* (Houghton, Mifflin) is concerned with the personalities and the amenities of our diplomatic relations with the mother country. Perhaps the most significant of the books dealing with our foreign affairs is Walter Millis' *The Road to War* (Houghton, Mifflin) which argues that the American entry into the World War was unnecessary and unwise. Frank Simonds' *American Foreign Policy in the Post-War years* (Johns Hopkins) is a conservative interpretation of recent diplomacy.

SOCIAL HISTORY

Two of the most interesting volumes in the realm of social history inaugurate the *Appleton-Century Historical Essays* series. *Sources of Culture in the Middle West*, ed. by D. R. Fox, consists of four essays dealing with the cultural relationships between the frontier and the homeland, American or European. D. R. Fox's *Ideas in Motion* contains four delightful essays on the history of ideas and displays that combination of learning and wit for which Professor Fox is well-known. Mary S. Benson's *Women in Eighteenth Century America* (Columbia) is largely an index of opinion on the position of woman rather than an analysis of the contribution of woman to colonial life. Charles Wilson's *Backwoods America* (U. of N. C.) presents some phases of life on the present-day frontier; the material is interesting and the illustrations well-chosen. Wayne C. Nelly's *The Agricultural Fair* (Columbia) is an admirably thorough history of one of the most characteristic American institutions. Two volumes present in a fluffy manner phases of social life at the end of the century: Elizabeth D. Lehr's *King Lehr and the Golden Age* (Lippincott) and Henry Collins Brown's, *Brownstone Fronts and Saratoga Trunks.* (Dutton) A more substantial sociological analysis of recent social life can be found in Caroline Ware's *Greenwich Village, 1920-1930* (Houghton, Mifflin). In the field of education Merle Curti has written one of the most important books to appear in recent years—*Social Ideas of American Educators* (Scribner)—a book valuable alike for its analysis of the philosophy of individual educators and for an explanation of the social background of educational ideas.

THE SOUTH

The historical publications of the past year would indicate somewhat less interest in Southern history than in previous years. Such a conclusion would be somewhat misleading: most of the interest in Southern history has found expression either in biography or in sociological treatises. The University of North Carolina Press continues to hold the position it has long occupied as the organ of Southern regionalism; most of the treatises and biographies in Southern history bear the imprint of this press. Two interpretations of the South deserve attention: Clarence Caton's *90 in the Shade* (U. of North Carolina), an urbane, and critical analysis of Southern character, and B. B. Kendrick and A. M. Arnett, *The South Looks at its Past* (U. of North Carolina) a valuable recapitulation of recent scholarship in Southern history. H. D. Eggleston's *Southern Sketches* (Hist. Pub. Co., Charlottesville) contains essays on Hinton Helper, De Bow, Heros von Borcke, and other less-known Southerners.

THE WEST

The literature on the West is far more extensive than that on any other section of the United States. While interest in the more romantic aspects of Western history inspires most of the books, there is a growing realization of the importance of the West as an historical laboratory, an interest which finds expression in the publication of source material and in studies in institutional history. In the first category must be noted the following volumes, all of considerable value, and all well edited: Maurice S. Sullivan, *The Travels of Jedediah Smith, a Documentary Outline*, including the journal (Fine Arts Press); *The Diary of the Alarcon Expedition into Texas,* *1718-19, By Fray Francisco Celiz,* ed. by Fritiz Leo Hoffman (The Quivera Society); *The Discovery of the Oregon Trail,* ed. by Philip A. Rollins (Scribner); *The Oregon Crusade. Across Land and Sea to Oregon,* vol. 5 of *Overland to the Pacific Series,* ed. by A. B. Hulbert and D. P. Hulbert (Stewart Commission and Denver Public Library); and *Land Ho; The Original Diary of a Forty-Niner,* by Elliott W. Cook (Huntington Putnam Bk. Co., Baltimore). In the category of institutional history, two books are of real importance. James G. Leyburn's *Frontier Folkways* (Yale) presents a study of the comparative history of frontiers—American, Australian, Asian. W. P. Webb's *Texas Rangers* (Houghton, Mifflin) tells the exciting story of the rise and decline of that great organization of man-hunters; it is equally noteworthy for scholarship and for literary brilliance. Half a dozen volumes present the more dramatic aspects of Western history,—the mining kingdom, Indian fighting, and so forth: C. B. Glassock, *The War of the Copper Kings* (Bobbs-Merrill) is the story of Butte, Montana and the rise of the copper industry; Edna B. Buckbee, *The Saga of Old Tuolumne* (Press of the Pioneers) tells the history of Tuolumne County, California; Estelline Bennett, *Old Deadwood Days,* (Scribner) recalls one of the dead mining towns of the west; Angus Graham, *The Golden Grindstone* (Lippincott) tells the adventures of George Mitchell in the Klondike Gold Rush; John M. Gibbon, *Steel of Empire* (Bobbs-Merrill) recounts the history of the building of the Canadian Pacific Railway; and Paul I. Wellman, *Death in the Desert* (Macmillan) is a descriptive history of half a century of Indian warfare in the great Southwest. Three monographs on the early history of the West deserve attention: Edgar B. Wesley, *Guarding the Frontier; a study of frontier defense, 1815-1825* (U. of Minn.); William A. Galloway, *Old Chillicothe* (Buckeye Press); and William S. Lester, *The Transylvania Colony* (Samuel Guard & Co., Spencer, Ind.) The Press of the Pioneers, which is particularly active in the field of Western history, has brought out new editions of two classics of western history: Hiram M. Chittenden's *American Fur Trade of the Far West.* 2 vols.; and Edwin L. Sabin's *Kit Carson Days,* 2 vols.

STATE AND LOCAL HISTORY

The writing of local history, long notoriously poor, has in recent years showed marked improvement. While it would appear that regional history offers a more logical approach than does state history, the writing of state history affords nevertheless material of some value to the historian. The publication of five state histories during the past year indicates the continued interest in this approach: Edward Hungerford, *Pathway of Empire* (McBride), a history of New York State; Wayland F. Dunaway, *History of Pennsylvania* (Prentice Hall); Albert B. Moore, *History of Alabama* (U. of Alabama); David D. Wallace, *History of South Carolina,* 4 vols. (Am. Hist. Soc.); and Charles H. Carey, *A General History of Oregon,* vol. I (Metropolitan Press). In addition, attention should be directed to three books of a more informal nature: Lucius Beebe's *Boston and the Boston Legend* (Appleton); Julian Meade's *I Live in Virginia* (Longmans), and E. A. Collins, *Folk Tales of Missouri* (Christopher)

THE ANCIENT WORLD

With the publication of *Our Oriental Heritage,* Will Durant inaugurates his monumental *Story of Our Civilization* (Simon and Schuster). *Our Oriental Heritage* covers the history of the Near and the Far East; the book is written in a popular style but attempts to present the conclusions of scholarship. Three volumes of a more technical nature present source material of a valuable nature on the history of the Near East: Ellen Moore, *Neo-Babylonian Business and Administrative Documents* (U. of Michigan); Leif Amundsen, *Greek Ostraca in the University of Michigan Collection* (U. of Michigan); and Calvin W. McEwan, *Oriental Origin of Hellenistic Kingship* (Oriental Institute studies, No. 13. U. of Chicago Press).

S. A. Cook, and others, ed. *The Augustan Empire, 44 B.C. to 70 A.D.* is vol. 10 of the *Cambridge Ancient History* (Macmillan). Grant Showerman, *Monuments and Men of ancient Rome* (Appleton) consists of studies of political and literary leaders representative of the culture of the Roman world. Cyril E. Robinson, *A History of Rome* (Crowell) is a brief general account.

CONTINENTAL EUROPEAN HISTORY

General.—Two general surveys of history invite comparison: the distinguished historian H. A. L. Fisher has given us two volumes of his *History of Europe* (Houghton, Mifflin), Vol. 1 covering the ancient and medieval world and Vol. 2 the Renaissance and Reformation and the Age of Reason; Harry Elmer Barnes, the most eloquent spokesman of the New History in this country, has given us a monumental survey of history from the earliest times to the present, with the accent on the present—*A History of Western Civilization,* 2 vols. (Harcourt) A volume which throws some light on aspects of history little known and little understood, is *Rats, Lice, and History,* by Hans Zinsser (Little Brown), a history of plagues. Two volumes of essays, touching European and American history alike, are distinguished by their urbanity and literary charm: Carl L. Becker's *Everyman his own Historian* (Crofts) and Wilbur C. Abbott's *Adventures in Reputation* (Harvard).

Medieval.—Noteworthy in the realm of medieval history is the work of the University Presses, particularly that of the Columbia University Press. Two volumes of the *Records of Civilization Series* appeared during the year: Lawrence M. Larson, *Earliest Norwegian Laws* (Columbia) and *The Chronicle of the Slavs, by Helmold, Priest of Bosau,* ed. by Francis J. Tschan. (Columbia) Professor Lynn Thorndike added the third and fourth volumes to his learned and exhaustive *History of Magic and Experimental Science* (Columbia).

Modern.—It is a matter of satisfaction that so many of the volumes in the field of modern history are both learned and interpretative. Notable among the books which combine these characteristics is A. Wolf's *History of Science, Technology and Philosophy in the XVI and XVII Centuries* (Macmillan) A less ambitious work touching on the same subject is Katharine B. Collier's *Cosmologies of our Fathers* (Columbia), a survey of the struggle between science and religion in the Seventeenth and Eighteenth centuries. A number of volumes throw some additional light on the French Revolution: Charles Van Duzer's *Contribution of the Idealogues to French Revolutionary Thought* (Johns Hopkins); Ramsay Phipps', *Armies of the First French Republic* (Oxford); *With Napoleon in Russia. The Memoirs of General de Coulaincourt,* ed by Jean Hanoteay (Morrow), and Alfred C. Pundt, *Arndt and the Nationalist Awakening in Germany* (Columbia). For more recent European history William L. Langer's *Diplomacy of Imperialism, 1890-1902* 2 vols. (Knopf) is indispensable.

ENGLISH HISTORY

Many of the more important works by English historians have been republished in this country. Of these the most notable are: R. H. Hodgkin, *History of the Anglo-Saxons,* 2 vols. (Oxford); Katherine Garvin, ed. *The Great Tudors* (Dutton); M. James and M. Weinstock, *England during the Interregnum, 1642-1660* (Longmans); David Ogg, *England in the Reign of Charles II,* 2 vols. (Oxford); G. M. Young, ed. *Early Victorian England, 183-1865.* 2 vols. (Oxford); Frank Hardie, *The Political Influence of Queen Victoria, 1861-1901* (Oxford); M. and C. H. B. Quennell, *History of Everyday Things in England,* vol. 4 (Scribner); and E. L. Woodward, *Great Britain and the German Navy* (Oxford.) American scholarship has concentrated to an unusual extent upon the Nineteenth Century of English history. Some of the important monographs in this field are: Walter Wirthwein, *Britain and the Balkan Crisis, 1875-1878*

(Columbia); Francis Flournoy, *British Policy toward Morocco in the Age of Palmerston, 1830-1865,* (Johns Hopkins); Paul Knaplund. *Gladstone's Foreign Policy,* (Harper); W. E. Williams, *Rise of Gladstone to the Leadership of the Liberal Party* (Macmillan); and Henry L. Hall, *Australia and England. A Study in Imperial Relations* (Longmans). George Dangerfield's *Strange Death of Liberal England* (Smith & Haas) chronicles the failure of liberalism and the Liberal Party in the years before the World War.

THE WORLD WAR AND AFTER

The failure of the settlement at Versailles has directed attention increasingly to the history of the war and especially of the peace treaties and the consequences of those treaties. C. R. M. F. Crutwell's *History of the World War* (Oxford is a general history, concerned chiefly with military events. Important, too, for military History is Sewell Tyng's *The Campaign of the Marne, 1914* (Longmans). The defeat of the Central Powers is explained in part in Ralph Lutz, ed. *Causes of the German Collapse in 1918, a Documentary History* (Stanford), one of the volumes of the invaluable Hoover War Library. Lima Almond and Ralph Haswell, *The Treaty of St. Germain* (Stanford) is a documentary history of that treaty. Some light on the peace settlement can be found in G. B. Noble, *Policies and Opinions at Paris, 1919* (Macmillan). The Russian Revolution continues to attract the attention of students, and there is apparent a more impartial and objective attitude toward that great experiment. William Henry Chamberlin's *The Russian Revolution* 2 vols. (Macmillan) is thorough but somewhat unsympathetic. A documentary history of the Revolution has been compiled by James Bunyan and H. S. Fisher, *The Bolshevik Revolution, 1917-18* (Stanford). Michael Florinsky, *The Saar Struggle* (Macmillan) is a summary of developments leading up to the recent plebescite in the Saar. Of the various histories of the post-war States, the following deserve mention: Konrad Heiden, *History of National Socialism* (Knopf); Henry E. Allen. *The Turkish Transformation* (U. of Chicago); Kamil Drofta, *Short History of Czechoslovakia* (McBride); and Henry A. Foster, *The Making of Modern Iraq.* (U. of Oklahoma).

BIOGRAPHY

By Malcolm O. Young

Reference Librarian, Princeton University

COLLECTIVE WORKS

The number and quality of biographical works published in the last half of 1935 has fully made up for a small output in the early months. What may be called the background book of the year is Edward H. O'Neill's *A History of American Biography,* 1800-1935 (Univ. of Pennsylvania Press), valuable for its analysis and especially for its comprehensive bibliography. The same authority expresses his high opinion of American biographical writing in "Modern American Biography," an essay in the *North American Review* for December, 1935. The list of works of a collective type is short: Marston Balch has edited *Modern Short Biographies* (Harcourt), J. Leslie Mitchell's *Earth Conquerors* (explorers) (Simon and Schuster), C. J. Hylander's *American Scientists* (Macmillan), Charles A. Beard's *The Presidents in American History* (Messner), Wilbur C. Abbott's *Adventures in Reputation* (Harvard Univ. Press), essays on Macaulay, Cromwell, Hume, Chesterfield, Victoria. Here, too, may be mentioned one of the more important works—Burton J. Hendrick's *The Lees of Virginia* (Little, Brown), dealing with that famous family from its founder in this country to Gen. Robert E. Lee.

PRESIDENTIAL SUBJECTS

There should be included the best interpretation of the year of Washington, by an English-Frenchman, Michael de la Bedoyere (Lippincott). The other important book on the subject is Fred L. Holmes' *George Washington Travelled This Way* (Page). The *American Talleyrand*, by Holmes Alexander (Harper) deals with Martin Van Buren. Roy P. Basler's *The Lincoln Legend* (Houghton, Mifflin) is concerned with the changing conceptions of the subject during the passing years. William B. Hasseltine's *Ulysses S. Grant* (Dodd, Mead) lays emphasis on the post-war years. Ray Stannard Baker's *Woodrow Wilson*, vol. 5 (Doubleday, Doran) covers 1914-1915, and reveals, beside its always interesting subject, a biographer growing in skill.

STATESMEN AND JURISTS

In this group are Frank Monoghan's *John Jay*, (Bobbs, Merrill), Arthur Styron's *The Cast-Iron Man: Calhoun and American Democracy* (Longman's), Carl B. Swisher's *Roger B. Taney* (Macmillan). *The Mississippi Statesman, Lucius Q. C. Lamar* is the subject of a work by Wirt A. Cate (University of North Carolina Press). In the same period was the vigorous Parson Brownlow, active as governor of Tennessee, and his biography is now written by E. M. Coulter (University of North Carolina). W. M. Brigance deals with the attorney-general and 'character', *Jeremiah Sullivan Black* (University of Pennsylvania Press). The vigorous *Roscoe Conkling* has a biography by Donald B. Chidsey (Yale Press). A timely life of *Justice Cardozo* is by Joseph P. Pollard (Yorktown Press). A posthumous work is *War Memoirs of Robert Lansing, 1915-1920* (Bobbs-Merrill). Charles G. Dawes has written *Notes as Vice-President, 1928-1929* (Little, Brown). A third autobiographical work is *Stormy Years*, by Carter Harrison (Bobbs-Merrill), long mayor of Chicago. It is inevitable that Huey P. Long should appear in the list: in a biography by Carleton Beals (Lippincott) and one by Forrest Davis (Dodge); also in his own *My First Days in the White House* (Harrisburg, Penna., Telegram Press), the latter giving his theories of government. Although by one of the foremost English biographers, Harold Nicolson, we must mention the outstanding *Dwight Morrow* (Harcourt), one of the most valuable, satisfying books in any field written this year.

BUSINESS MEN

The outstanding biographer, Allan Nevins now gives us *Abram S. Hewitt; with some Account of Peter Cooper* (Harper). George Britt's *Forty Years —Forty Millions* (Farrar, Rinehart) concerns the publisher Frank Munsey. J. K. Winkler, who is already the biographer of Morgan, Rockefeller and others, now puts out *The Du Pont Dynasty* (Reynal and Hitchcock). Jack Rohan's *Yankee Arms Maker* (Harper) is the "incredible career of Samuel Colt." The second volume of William T. Hutchinson's life of the inventor and manufacturer, Cyrus Hall McCormick, appears (N.Y., Appleton-Century. "Silver Dollar" Tabor, promoter, politician, 'character', has his portrait in *The Tabors*, by Lewis C. Gandy, (Press of the Pioneers). Frank Vanderlip's autobiography is entitled, *From Farm Boy to Financier* (Appleton-Century). A less known character, William Alexander, has written *My Half-Century in Life Insurance* (Harper), while the theorist Roger W. Babson has called his reminiscences *Actions and Reactions* (Harper). Louis K. Liggett is the subject of Samuel Merwin's *Rise and Fight Again* (Albert and Charles Boni). The idealist, politician, business man, William Boyce Thompson, is, with certain world events, revealed by Hermann Hagedorn in *The Magnate* (Reynal and Hitchcock). To be included here also is Cecil G. Tilton's life of *William Champan Ralston*, California banker of the 19th century (Christopher). Perhaps best classed here is the new life of *Victor Lawson*, founder of the Associated Press, by Charles H. Dennis (Univ. of Chicago).

WRITERS

A group of rather academic works opens this class: Alfred Harbage's *Sir William Davenant: Poet-Venturer* (University of Pennsylvania Press), Edward A. Tenny's *Thomas Lodge* (Cornell University Press), *John Gibson Lockhart, a Critical Study,* by Gilbert MacBeth (University of Illinois), *John Arbuthnot, Mathematician and Satirist,* by Lester M. Beattie (Harvard Press), and *George Colman the Elder,* essayist, dramatist-manager, by Eugene R. Page (Columbia University Press). Elizabeth K. Halbeisen has a work on the minor writer, Harriet Prescott Spofford (Oxford Press). Of course *The Spangled Banner* (Farrar and Rhinehart) is the story of Francis Scott Key. Another life of the poet Sidney Lanier is by Lincoln Lorenz (Coward-McCann). A new two-volume *Life of Washington Irving* is by S. T. Williams (Oxford Press). A critical work is David D. Henry's *William Vaughn Moody* (Bruce Humphries). An outstanding study of Mark Twain is Edward Wagenknecht (Yale Press), occasioned by the humorist's centenary. A trio of thoroughly pleasant autobiographies consists of Margaret Deland's *If This be I* (Appleton-Century), Robert Grant's *Fourscore* (Houghton Mifflin) and the publisher, George H. Doran's *Chronicles of Barabbas* (Harcourt). Tertius van Dyke has portrayed the varied activities of his Father, Henry van Dyke (Harper). Nancy Hoyt, Elinor Wylie's sister, has subtitled her biography of the poet *The Portrait of an Unknown Lady* (Bobbs-Merrill). Edgar Lee Masters has written on his fellow poet Vachel Lindsay (Scribner). A needed life is done by S. Foster Damon in his *Amy Lowell* (Houghton Mifflin).

EDUCATIONAL LEADERS

The famous President of Williams College, Mark Hopkins, is the subject of a biography by J. H. Denison (Scribner). A very personal, revelation, edited by B. J. Stern, is *Young Ward's Diary, 1860-70,* the writer being America's first great sociologist. *Mrs. Leland Stanford* (Stanford University Press) is by Bertha Berner. The economist, John Rogers Commons, has set forth his often stormy life in *Myself* (Macmillan). A. Lawrence Lowell has written the biography of his brother, the eminent astronomer, Percival Lowell (Macmillan). Rollo W. Brown, in *On Writing the Biography of a Modest Man* (Harvard University Press) has given an intimate memoir of Dean Le Baron Russell Briggs. A delightful autobiography is Bliss Perry's *And Gladly Teach* (Houghton Mifflin), with Williams, Princeton, Harvard and *The Atlantic Magazine* as his fields.

RELIGIOUS LEADERS AND REFORMERS

Another biography of the religious leader is *The Rediscovery of John Wesley,* by George C. Cell (University of North Carolina Press). G. H. Barnes and D. L. Dumond have edited the *Letters of Theodore Dwight Weld, Angelia Grimke Weld and Sarah Grimke* (Appleton-Century), sidelights on the anti-slavery movement. Elaine Goodale Eastman has entitled her biography of the leader, educator, founder of Carlisle, *Pratt, the Red Man's Moses* (University of Oklahoma Press). Another estimate of the prison reformer, Thomas Mott Osborne, is Rudolph W. Chamberlain's *There is no Truce* (Macmillan). Just after her death appeared the autobiography called, *The Living of Charlotte Perkins Gilman* (Appleton-Century). James W. Linn has written the first and authorized biography of Jane Addams since her death (Appleton-Century). A pair of original thinkers and doers are found in Robert A. Parker's *A Yankee Saint: John Humphrey Noyes and the Oneida Community* (Putnam), and O. W. Riegel's *Crown of Glory* (Yale University Press), the story of James J. Strang who left the Mormons for a sect of his own. The author Laura E. Richards has written the biography of her philanthropist grandfather, Samuel Gridley Howe (Appleton-Century). Another work to be classed here is R. K. Wylly's *Pioneer Padre: the Life and Times of Eusebia Francisco Kino,* Jesuit missionary of the 18th century, (Dallas, Southwest Press). Quite different in setting is Howard C. Robbins' *Life of Paul Revere*

Frothingham, the Boston clergyman (Houghton Mifflin).

MISCELLANEOUS GROUPS

A posthumous biography is Thomas Boyd's *Poor John Fitch* (Putnam), a life of the inventor. Donald C. Peattie *Singing in the Wilderness* (Putnam) deals popularly with John James Audubon. A man of many affairs, Joel R. Poinsett, is portrayed by J. Fred Rippy (Duke University Press). There are also William C. Duncan's *The Amazing Madame Jumel* (Stokes); James A. Thompson's *Count Rumford of Massachusetts* (Farrar and Rinehart); *Life and Adventures of James W. Marshall* (Parson), the discoverer of California gold, by George F. Parsons. A unique work is the biography of her father by Mari Sandoz, entitled *Old Jules* (Little Brown), a vivid and honest picture of an irascible character, and the almost unbelievable hardships of pioneer life. A period and man are in E. D. Lehr's *King Lehr and the Gilded Age* (Lippincott).

A pair of books of similar type are Robert T. Morris' *Fifty Years a Surgeon* (Dutton) and John B. Wheeler's *Memoirs of a Small-Town Surgeon* (Stokes). John Tasker Howard has written a musical biography in *Ethelbert Nevin* (Crowell), while Mary Laston has given us her *Schumann-Heink* (Macmillan). Joseph Verner Reed's *The Curtain Falls* (Harcourt) is the reminiscences of the play producer. The famous travel-lecturer of yesterday. John L. Stoddard, has a biography written by D. C. Taylor (Kennedy). One of the most entertaining works is the two-volume *Autobiography of John Hays Hammond* (Farrar), mining engineer and man of many interests. Vincent Sheean, post-war correspondent and traveller, in his *Personal History* (Doubleday Doran) has revealed not only many events but an interesting mind. An outstanding work is Rowland H. Harvey's *Samuel Gompers* (Stanford University Press).

Two biographies of interest are Mathew G. Perry in Edward M. Barrow's *The Great Commodore* (Bobbs-Merrill), and *Oliver Hazard Perry* written by Charles J. Dutton (Longmans). *My Life on the Frontier, 1864-1882* (Press of the Pioneers) is the autobiography of Miguel Antonia Otero, one time Governor of New Mexico. J. E. Milner and E. R. Forest have written *California Joe: Noted Scout and Indian Fighter* (Caldwell, Idaho, Caxton Printers). Richard G. Montgomery has published *The White-Hearted Eagle, John McLoughlin, Builder of an Empire* (Macmillan). The Pulitzer prize for biography of 1934 was awarded to Douglas S. Freeman for the first two volumes of his *Robert E. Lee,* now worthily followed by volumes 3 and 4 (Scribner).

FOREIGN SUBJECTS

Among the biographies of foreign subjects not before mentioned are William T. Walsh's *Isabella the Crusader* (Sheed and Ward); Samuel Putnam's *Marguerite of Navarre* (Coward McCann); Joseph Shearing's *The Angel of the Assassination, Charlotte de Corday,* (Smith and Haas); Louis Gottschalk's *Lafayette Comes to America* (University of Chicago press); Strongfellow Barr's *Mazzini* (Holt); Maureen Fleming's semi-fictional *Elizabeth, Empress of Austria* (Kendall and Sharp), George Seldes' spectacular work on Mussolini, *Sawdust Caesar* (Harper), and last, a scholarly life of Lord Chesterfield, by Samuel Shellabarger (Macmillan).

TRAVEL

By Elizabeth T. Platt

American Geographical Society

EXPLORATION: BUSINESS AND HISTORY

An explorer's conception of modern exploration is presented by Roy Chapman Andrews, Director of the American Museum of Natural History, in *This Business of Exploring* (Putnam), and as an example of modern scientific exploration he relates experiences of the 1928-30 Central Asiatic Expedition in the Gobi Desert. Another discussion is Lincoln Ellsworth's *Exploring To-day* (Dodd, Mead). The Harvard Travellers Club *Handbook of Travel,* ed. by G. C. Shattuck (Harvard University Press) is the second edition of a useful handbook. In *The Background of Geography* (Lippincott) M. W. Spilhaus "proposes to explain how and why man's geographical knowledge grew" from the time of the Sumerians to the present. Leonard Outhwaite's *Unrolling the Map: The Story of Exploration* (Day) shows in a series of 56 maps the enlargement of knowledge put on maps from about 3000 B.C. to the present. Lowell Thomas discusses some of the "less frequently encountered tales of explorers" in his *The Untold Story of Exploration* (Dodd, Mead). Associated with Astor in the founding of Astoria was Robert Stuart who made an overland crossing to establish communication with New York. The story of the journey is now available in *The Discovery of the Oregon Trail. Robert Stuart's Narratives of his Overland Trip Eastward from Astoria in 1812-12. . . To Which is added: An Account of the Tonquin's Voyage . . . and Wilson Price Hunt's Diary of his Overland Trip Westward to Astoria in 1811-12.* Ed. by P. A. Rollins (Scribner's). There have been fewer accounts of Spanish activities north of New Mexico than in New Mexico, Texas, California and Arizona. *After Coronado: Spanish Exploration Northeast of New Mexico, 1696-1727: Documents from the Archives of Spain, Mexico, and New Mexico,* tr. and ed. by A. B. Thomas (University of Oklahoma Press) helps to fill the gap. Another account of early travel in the southwest is Fray Francisco Céliz' *Diary of the Alarcon Expedition into Texas, 1718-1719.* Tr. by F. L. Hoffman. (Quivira Society).

AIRPLANE TRAVEL

Anne Morrow Lindbergh's *North to the Orient* (Harcourt, Brace) records an airplane trip over the great circle route to China made with her husband in 1931. The essential quality of the trip she defines as a "magic caused by the collision of modern methods and old ones; modern history and ancient; accessibility and isolation". Elly Beinhorn's *Flying Girl* (Holt) tells of her experiences encountered flying alone around the world over Africa, India, Siam, Bali, Australia and South America. Dr. R. U. Light's flight around the world is described in "Cruising by Airplane: Narrative of a Journey around the World" (*Geological Review*. Oct. 1935).

MOUNTAINEERING

The story of mountaineering is reviewed from its beginning to the present by R. L. G. Irving in *The Romance of Mountaineering* (Dutton). The experiences of a mountaineer and guide who climbed extensively in the Alps and Canada are recounted in a work largely autobiographical by Conrad Kain *Where the Clouds Can Go.* (ed. with additional chapters by J. M. Thorington. American Alpine Club). Clarence King's *Mountaineering in the Sierra Nevada*. ed. and with a preface by F. P. Farquhar (Norton) is a record, written in the 1860's, by a member of the first party to make a geoligical survey in California. The author was later to become the first director of the United States Geological Survey. The crossing of the Canadian Coast Range on skis in 1934 in the vicinity of the noted peak, Mount Waddington, is told by Sir Norman Watson and E. J. King in *Round Mystery Mountain: A Ski Adventure in British Columbia* (Longmans). The story of the successful ascent of Minya Konka, which stands on the Chinese-Tibetan borderland, by the members of the Sikong Expedition, 1932, is given in *Men Against the Clouds: The Conquest of Minya Konka*, by R. L. Burdsall and A. B. Emmons, 3rd., with contributions by Terris Moore and J. T. Young (Harper). Fritz Bechtold describes the attempt to scale Nanga Parbat, the highest peak of the Western Himalayas, in 1934 in *Nanga Parbat Adventure: A Himalayan Expedition*, tr. by H. E. G. Tyndale (Dutton), and the account of the 1933 Everest Expedition is given in *Attack on Everest*, by Hugh Ruttledge (McBride).

POLAR REGIONS

The narrative of the Second Byrd Antarctic Expedition is available in *Discovery* (Putnam) by R. E. Byrd with chapters by C. J. V. Murphy and K. L. Rawson. Max Miller's *Great Trek* (Doubleday) tells of driving a herd of reindeer across Alaska into Canada, an undertaking which took five years. Closely linked to this is the story of David Irwin who was with the band for a time and made a 3,600-mile trip largely alone from Nome to Churchill (*Alone Across the Top of the World: The Authorized Story of the Arctic Journey of David Irwin as Told to Jack O'Brien.* (Winston). A lonely Arctic vigil is described in Johannes Georgi's *Mid-Ice: The Story of the Wegener Expedition to Greenland*, tr. by F. H. Lyon. (Dutton). The author spent six months completely alone at a station in the middle of the Greenland ice-cap. Another record of exploration in Greenland is Louise A. Boyd's *The Fiord Region of East Greenland* (American Geographical Society) which is a record of an expedition to East Greenland in 1933. Rockwell Kent's *Salamina* (Harcourt, Brace) illustrated by the author and Ruth Bryan Owen's *Leaves from a Greenland Diary* (Dodd, Mead) are also accounts of recent visits to Greenland. Father Bernard Hubbard's late work in the Aleutian Islands is recounted in *The Cradle of the Storms* (Dodd, Mead). *The Voyage of the Chelyuskin*, by members of the expedition, tr. by Alec Brown (Macmillan), tells of an attempt to demonstrate the practicability of the northern sea route through the Barents and Kara Sea and along the north coast of Siberia. The vessel was crushed near the end of its trip. J. G. Hayes *The Conquest of the North Pole* (Macmillan) is a history of polar exploration.

AMERICA

Two new volumes on Nova Scotia have been published this year: T. M. Longstreth's *To Nova Scotia: The Sunrise Province of Canada* (Appleton-Century) which records a trip through Nova Scotia during the summer of 1934 and Clara Dennis's *Down in Nova Scotia: My Own, My Native Land* (Goodspeed's Book Shop); Gordon Brimley's *Away to Gaspé* (Dodd, Mead) also records a motor trip. Among the material for the United States are Ella Enslow's and A. F. Harlow's *Schoolhouse in the Foothills* (Simon, Schuster) and Eleanor Early's *Behold the White Mountains* (Little, Brown) Harry Franck's *Trailing Cortez Through Mexico* (Stokes) is a record of his travels the object of which was to trace in its entirety the route followed by Cortez in his Conquest of Mexico. J. F. Dobie's *Tongues of the Monte* (Doubleday) records a leisurely trip by mule through northern Mexico. Carveth Wells' *Bermuda in Three Colors* (McBride) is an informal guide to Bermuda by a native Bermudian. For Peru there are Christopher Morley's *Hasta la vista; or, A Postcard from Peru* (Doubleday) and Josephine H. Woods' *High Spots in the Andes: Peruvian Letters of a Mining Engineer's Wife* (Putnam), a collection of letters chronicling life at a Santo Domingo mine which is six days from the coast. *Gold, Diamonds and Orchids*, by William LaVarre (Revell) is a record of exploration in British Guiana and down the Amazon. Also dealing largely with northern South America is Hendrik de Leeuw's *Crossroads of the Caribbean* (Messner).

EUROPE

Among the European travel books published during the year were: W. F. Starkie's *Spanish Raggle-Taggle: Adventures with a Fiddle in North Spain* (Dutton). Grace Roosevelt's *We Owed it to the Children* (Coward, McCann), recording a motor trip from Greece to Paris; E. E. Mannin's *Forever Wandering* (Dutton); Eugene Lyons' *Moscow Carrousel* (Knopf); Louis Fischer's *Soviet Journey* (Smith and Haas) and Harry Franck's *A Vagabond in Sovietland* (Stokes).

AFRICA

As one would expect there have been an unusual number of books dealing with Ethiopia. L. M. Nesbitt's *Hell-Hole of Creation: The Abyssinian Danakil* (Knopf) is the story of an English mining engineer who, with two Italian companions resident in Ethiopia, set off from Awash in 1928 without permission of the Ethiopian government to cross the Danakil country. Dr. C. S. Coon's *Measuring Ethiopia and Flight into Arabia* (Little, Brown) is the record of a journey made with the definite purpose of anthropological research in Ethiopia and Yemen. Gordon MacCreagh's *The Last of Free Africa* (Appleton-Century) is a new edition, with some additions, of a work first published seven years ago. Marcel Griaule's *Burners of Men: Modern Ethiopia* (Lippincott) is a popular account of a French scientific expedition. The book was awarded the Prix Grincoire, 1934. Dugald Campbell's *Camels through Libya* (Lippincott) is "a desert adventure from the fringes of the Sahara to the oases of upper Egypt." Martin Johnson's *Over African Jungles* (Harcourt, Brace) is the record of adventure in the big game country of Africa, particularly East Africa. Also dealing particularly with the animal life of East Africa especially on the Tanganyika borderland and the slopes of Mount Kenya is Vivienne De Watteville's *Speak to the Earth: Wanderings and Reflections among Elephants and Mountains* (Smith and Haas); also Ernest Hemingway's *Green Hills of Africa* (Scribner). Geoffrey Gorer's *Africa Dances: A Book about West African Negroes* (Knopf) tells of the author's travels in West Africa with a famous negro dancer. Richard Halliburton's *Seven League Boots* (Bobbs, Merrill) is an account of his recent travels in Europe, Africa, Asia and the West Indies.

ASIA

T. E. Lawrence's *Seven Pillars of Wisdom* (Doubleday, Doran) needs no comment. Georges LeFevre's *An Eastern Odyssey: The Third Expedition of Haardt and Audouin-Dubreuil*, tr. by Maj. Gen. Sir E. D. Swinton (Little, Brown), is the story by a member of the Citroen Central Asian Expedition which crossed from Beirut, Syria, to Peking, the first expedition to cross the continent of Asia by motor. Henning Haslund previously noted for his *Tents in Mongolia* tells of further Mongolian adventures in the Torgut country (*Men and Gods in Mongolia* Dutton). E. E. Kisch, *Changing Asia*, English version by Rita Reil (Knopf), is impressions of life in Central Asia—Tajikistan and Uzbekistan—under the Soviet régime. Ella K. Maillart's Central Asian experiences are told in *Turkestan Solo: One Woman's Expedition from the Tien Shan to the Kizil Kum*, tr. by John Rodkin (Putnam). Harrison Foreman has written of Tibetan adventures in *Through Forbidden Tibet* (Longmans). Patrick Balfour's *Grand Tour: Diary of an Eastward Journey* (Harcourt, Brace) tells of a journey largely by motor eastward from London to India, Malaya and Sumatra. For 22 years Carl Raswan has lived, off and on, among the Bedouins of Arabia. In *The Black Tents of Arabia* (Little, Brown) he tells his adventures.

XXV. LITERATURE AND LANGUAGE

CRITICISM AND BELLES LETTRES

BY PETER MONRO JACK

CRITIC AND LECTURER

INDIVIDUAL STUDIES

American.—The Mark Twain centennial saw the publication of two important books: *Mark Twain's Notebooks,* prepared for publication with comments by Albert Bigelow Paine (Harper), though these notebooks are not yet given in full; and *Mark Twain, the Man and his Works,* by Edward Wagenknecht (Yale Press), exhaustive and authoritative, disproving the recent view that Mark Twain's environment prevented the fulfillment of his genius. *The Thought and Character of William James,* in two volumes, by Ralph Barton Perry (Little, Brown) is a mine of source material about William James, Henry James the elder, Henry James the younger, and their associates. *James Lane Allen and the Genteel Tradition,* by Grant C. Knight (U. of North Carolina) suggests how the value of Allen's work was lessened by the "genteel tradition" of his time. *Paul Elmor More and American Criticism,* by Robert Shafer (Yale Press) is a defence of the Humanist position as exemplified by More. *The Challenge of Humanism,* an essay in comparative criticism, by Louis J. A. Mercier, (Oxford Press) is a similar exposition of the Humanist position of the late Irving Babbitt

English.—Sir Edward Dyer, one of the earliest of the minor Elizabethan lyricists, is the subject of *At the Court of Queen Elizabeth,* by Ralph M. Sargent (Oxford Press). Arthur Bryant continues his researches into the life of Pepys with *Samuel Pepys: The Years of Peril* (Macmillan) the years of 1669-1713, based on many still unpublished records from the Bodleian, the Admiralty, the Royal Society, and the Pepys Library in Magdalen College. Hilaire Belloc's *Milton* (Lippincott) deals particularly with the Catholic background; Rose Macaulay's *Milton* (Harper) is especially concerned with the inner conflict that determined his poetry. In *Byron, The Years of Fame* (Viking) Peter Quennel examines the Byron craze of 1812 and comments on Byron's racial and family snobbery; W. J. Calvert's *Byron, Romantic Paradox* (U. of North Carolina) restricts itself to the paradox of Byron's 18th century training and background and his romantic temperament. *The Romantic Rebels* by Frances Winwar (Little, Brown), biographical rather than critical, reanimates Byron, Shelley, and Keats. *Undercurrents of Influence in English Romantic Poetry* by Margaret Sherwood (Harvard Press) gives some new perceptions, particularly on Wordsworth. *Wordsworth's Anti-Climax* by Willard L. Sperry (Harvard Press) deals with Hartley's theory of associationism, suggesting that the poverty of Wordsworth's later work came from the exhaustion of his childhood associations. I. A. Richards's *On Imagination* (Harcourt, Brace) is chiefly an analysis of Coleridge's theory and practice of the psychological processes of imagination. André Maurois' *Dickens,* translated by Hamish Miles (Harper) and based on a series of lectures, is a romantic portrait; Hugh Kingsmill's *The Sentimental Journey, A Life of Charles Dickens* (Morrow) is more direct an informative. Derek Patmore recalls memories of his grandfather in *Coventry Patmore, Portrait of my Family, 1783-1896* (Harper), a friend of Tennyson, Carlyle, Ruskin, the Brownings. Kazuo Koizumi recalls his father in *Father and I: Memories of Lafcadio Hearn* (Houghton, Mifflin) as Japan's interpreter to the Western World.

Shakespeare.—John Dover Wilson has finished his edition of *Hamlet* (Macmillan) in the New Cambridge Shakespeare and has buttressed this greatest piece of editing with *The Manuscript of Hamlet* (2 vols.) and *What Happens in Hamlet,* both published by Macmillan. Caroline Spurgeon has published an integrated account of her enormous researches in *Shakespeare's Imagery* (Macmillan), an original and unusually interesting approach to Shakespeare. In *A Printer of Shakespeare* (Dutton) Edwin Elliot Willoughby has gathered together what knowledge we have of William Jaggard, the printer of the First Folio, and gives much information about the Elizabethan book world.

Montaigne.—*The Autobiography of Michel de Montaigne*, by Marvin Lowenthal (Houghton, Mifflin) is an ingenious selection and arrangement of the essays revealing Montaigne's life and his ''modernism.''

Contemporaries.—*Vachel Lindsay* (Scribner's) is a critical biography by Edgar Lee Masters who knew the poet and his environment and circumstances and idealisms better than anyone. Foster Damon has written a chronicle of *Amy Lowell* (Houghton, Mifflin) with extracts from her correspondence, an essential book for the study of the American poetic renaissance. Nancy Hoyt's picture of her sister *Elinor Wylie* (Bobbs-Merrill) is mainly biographical. Jessie Conrad has written an intimate picture of her late husband in *Joseph Conrad and his Circle* (Dutton). Charles Morgan, who had been chosen by George Moore as official biographer, was denied access to certain important letters and gave up the task, to write instead a short, important essay, *An Epitaph on George Moore* (Macmillan).

GENERAL LITERATURE

A new survey of the years between the revolution and the Civil War is found in Fred Lewis Pattee's *The First Century of American Literature, 1770 to 1870* (Appleton-Century Co.). In *Literature and Society* (Lothrop, Lee and Shepard) Albert Guérard attempts a comparison between European and American literature, with a discussion of Taine's theories of Time, Race, and Environment. *The Victorians and their Reading*, by Amy Cruse (Houghton, Mifflin) is an exhaustive and useful account of the place of books in Nineteenth Century England. *Archetypal Patterns in Poetry* (Oxford Press) by Maud Bodkin, follows Jung in the application of scientific research methods to literature, believing that primordial images, or archetypes, ''the psychic residue of numberless experiences of the same type,'' are the *a priori* determinants of individual experiences in poetry. *The Great Tradition* (Macmillan) by Granville Hicks, is the revised edition of a ''Marxist'' interpretation of American literature, with an added chapter on Marxist novelists, playwrights, and poets. To this may be added an anthology, *Proletarian Literature in the United States* (International Publishers) which contains a critical section from a Marxist point of view, and the *American Writers' Congress*, ed. Henry Hart (International Publishers), a comprehensive account of the speeches delivered at the first congress in April, 1935, a rationalization of revolutionary criticism. *Early American Books and Printing* (Houghton, Mifflin) by John T. Winterich, is an account of the first colonial printing presses, and the development of the American newspaper and magazine, and of book collecting. *Living With Books*, by Helen E. Haines (Columbia Press) suggests how books should be selected and how they should be used, and is chiefly for librarians and literary students. *Who Reads What?* by Charles H. Crompton, with an introduction by Dorothy Canfield Fisher (H. W. Wilson Co.) is the result of an examination (by questionnaire) of the readers of Mark Twain, Hardy, Sandburg, James, the Greek Classics, etc. *Famous Literary Prizes and their Winners* by Bessie Graham, revised and enlarged by Bessie H. Murray, is a useful reference book in which it may be noted that America gives more prizes for literature than any other nation. *Modern Thought and Literature in France* by Régis Michaud (Funk & Wagnalls) may be used with *From Rousseau to Proust* by Havelock Ellis (Houghton, Mifflin), a collection of already published essays, and *Comment Marcel Proust A Compose Son Roman* by Albert Feuillerat (Yale Press), showing the difference between Proust's conception and the result, and *Time Past: Memories of Proust and Others*, by Marie Scheikevitch, trans. by Francoise Felisle, and illus. (Houghton, Mifflin).

CONTEMPORARY LITERATURE

Creating the Modern American Novel by Harlan Thatcher (Farrar & Rinehart) is an arrangement, documentation and examination of 450 novels of the past 40 years, chiefly "realistic" novels. *Modern Fiction,* by Dorothy Brewster and Angus Burrell (Columbia Press) contains prefatory and informative essays on some modern novels, English, American and foreign, by two instructors at Columbia University. *Permanence and Change,* by Kenneth Burke (The New Republic, Inc.) is a subtle and suggestive continuation of the literary and linguistic enquiries of Bentham, and Richards & Ogden ("The Meaning of Meaning"). André Maurois, in *Prophets and Poets* (Harper) gives an account of the changing philosophy of England, using Kipling, Wells, Shaw, Chesterton, Conrad, Strachey, Lawrence, Huxley, Mansfield. *The Double Agent,* by R. P. Blackmur (Arrow Edition) is a close technical examination of the most important contemporary writers. *The Achievement of T. S. Eliot* by F. O. Matthiessen (Houghton, Mifflin) is a careful and clarifying account of this influential writer's poetry and criticism. *Irish Literary Portraits* by John Eglington (Macmillan) has chapters on Yeats, AE, Moore, Dowden, Joyce, etc. *Make It New* by Ezra Pound (Yale Press) is a cross section of Pound's critical views from 1913 to the present day, from the Troubadours to the Imagists.

LETTERS

The *Letters of Laurence Sterne,* ed. by Lewis Perry Curtis (Oxford Press) gives much literary information, besides making a self-portrait. E. V. Lucas has edited the *Letters of Charles and Mary Lamb* in three vols. (Yale Press) with new material and many notes. The *Early Letters of William and Dorothy Wordsworth,* 1787-1805 (Oxford Press) have been arranged and edited by Ernest de Selincourt in the first of three projected volumes. Claude Colleer Abbott has edited the *Letters of Gerard Manley Hopkins to Robert Bridges* (Oxford Press) with notes and an introduction, and has also done the *Correspondence between G. M. Hopkins and Richard Watson Dixon,* 2 vols. (Oxford Press). *Four Independents,* by Daniel Sargent (Sheed & Ward) has a chapter on Hopkins. *Arnold Bennett's Letters to His Nephew* (Harper) has an introduction by Frank Swinnerton, and there is also published an intimate portrait of Bennett by his second wife, Dorothy Cheston Bennett, in *Arnold Bennett, A Portrait Done At Home* (Kendall & Sharp) with 170 letters.

MISCELLANIES

William Lyon Phelps's *Yearbook* (Macmillan) has a short, informal essay for each day in the year on literature, journalism, history, and the arts. *The Art of Authorship,* by Edwin Valentine Mitchell (Loring & Mussey) is an entertaining miscellany on the habits of various authors. *For Authors Only,* by Kenneth Roberts (Doubleday, Doran) is a series of personal essays by the well-known historical novelist. *The Enjoyment of Literature* by Elizabeth Drew (Norton) is a companion volume to *Discovering Poetry* and an incitement to reading. *An Almanac for Moderns* by Donald Culross Peattie (Putnam) was awarded the Gold Medal of the Limited Editions Club as the book of the year (it is a description and interpretation of the seasons) most likely to remain a classic. *The Poet as Citizen,* by Sir Arthur Quiller Couch (Macmillan) is a welcome defence of poets and poetry. *Avowals and Denials* by G. K. Chesterton (Dodd, Mead) is a new book of essays, many on literary figures. *Hasta La Vista* by Christopher Morley (Doubleday, Doran) is chiefly travel essays with literary sidelights. Heywood Broun's *It Seems to Me* (Harcourt, Brace) is a colection from his ten years' writing on the *World-Telegram* and the *Morning World.* Curtis Brown in *Contacts* (Harper) recalls many authors with whom he had business dealings. *The Diary of Our Own Samuel Pepys* by Franklin P. Adams (Simon & Schuster) in 2 vols. is a selection from the writings between 1911 and 1934 by F. P. A. of the *Evening Mail, Tribune, World,* and *Herald-Tribune* as a chronicle of the town's doings.

ENGLISH LANGUAGE AND LITERATURE

By Albert Croll Baugh

Professor, University of Pennsylvania

GENERAL

The present survey of American research in the field covered, like its predecessors, is selective. Many studies concerned with details too technical for the layman are omitted although they are often of considerable importance to the philologist and the literary historian. A complete list of such contributions will be found in the author's bibliography in the Supplement to the *Publications of the Modern Language Association* (*PMLA*).[1] The reader should also consult James F. Willard's "Progress of Medieval Studies in the United States of America and Canada, Bulletin No. 12," published by the Mediaeval Academy, Hardin Craig's "Recent Literature of the English Renaissance" (*SP*), L. I. Bredvold's "English Literature, 1600-1800: A Current Bibliography" (*PQ*), and the "Victorian Bibliography" (*MP*) compiled by the Victorian research group of the Modern Language Association, all of which except the first include foreign as well as American work.

THE ENGLISH LANGUAGE

A useful survey and appraisal of recent work on the English language will be found in Kemp Malone's "Some Linguistic Studies of 1933 and 1934" (*MLN*). Two comprehensive treatments of the language have appeared in the course of the year and supplement each other nicely: Arthur G. Kennedy's *Current English,* an excellent "study of present-day usages and tendencies, including pronunciation, spelling, grammatical practice, word-coining, and the shifting of meanings," and the present writer's *History of the English Language,* which traces the development of the language in its various periods and the influences that have conditioned that development. Somewhat wider in its scope and more elementary in treatment is Scott, Carr, and Wilkinson's *Language and Its Growth: An Introduction to the History of Language,* a revision and enlargement of *The Development of Language* published by Scott and Carr in 1921. Somewhat individual in view is George K. Zipf's *The Psycho-Biology of Language: An Introduction to Dynamic Philology.* The *Anglo-Saxon Reader* by James W. Bright, which for many years has enjoyed a well-deserved popularity, has been issued with revisions and additions by James R. Hulbert, while a new book on similar lines, an *Old English Handbook,* by Marjorie Anderson and Blanche C. Williams, is attractive for the excellence of its selections. A section of the Old English vocabulary is studied by F. W. Grube in "Meat Foods of the Anglo-Saxons" (*JEGP*), while F. P. Magoun, Jr. has gathered the data on "Territorial, Place-, and River-Names in the Old English Chronicle, *A*-Text (Parker MS.)" (*Harvard Studies and Notes*). The most important contribution to the study of Middle English is the "Middle English Dialect Characteristics and Dialect Boundaries: Preliminary Report of an Investigation Based Exclusively on Localized Texts and Documents,'' the work of the late Samuel Moore, editor of the *Middle English Dictionary* in active preparation, and his colleagues Sanford B. Meech and Harold Whitehill. It is published, with valuable maps, in a volume of *Essays and Studies in English and Comparative Literature by Members of the English Department of the University of Michigan.* The same volume contains a lengthy study by Albert H. Marckwardt of the ''Origin and Extension of the Voiceless Preterit and the Past Participle Inflections of the English Irregular Weak Verb Conjugation.'' Albert C. Baugh has discussed ''The Chronology of French Loan-Words in English'' (*MLN*). A. W. Read's ''Amphi- Atlantic English'' (*English Studies*) is an interesting collection of utterances, sometimes acrimonious, from both sides of the Atlantic on the English Language, chiefly from the eighteenth and early nineteenth centuries. Leonard Bloomfield describes ''The Stressed Vowels of American English'' (*Language*). W. F. Leopold in ''Form or Function as the Basis of Grammar'' (*JEGP*) criticizes Jespersen's approach and defends function as the proper basis. Of general interest are Edwin B. Dike's ''Obsolete English Words: Some Recent Views'' (*JEGP*); J. M. Steadman's ''A Study of Verbal Taboos'' (*Amer. Speech*), that is, coarse words, words of an unpleasant suggestion, and the like, and Albert H. Marckwardt's ''*Flair*, A Recent Semantic Development'' (*ibid.*).

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[1] Periodicals are cited under the following abbreviations, the reference being always to the volume for the year covered by this review:—*PMLA, Publications of the Modern Language Association of America; MP, Modern Philology; MLN, Modern Language Notes; MLR, Modern Language Review; JEGP, Journal of English and Germanic Philology; SP, Studies in Philology; PQ, Philological Quarterly; ELH, A Review of English Literary History; RES, Review of English Studies; RR, Romanic Review.* Titles appearing as theses or in the publications of universities are followed where possible by the name of the university.

GENERAL LITERATURE

Albert Guerard's *Literature and Society,* is a fresh and stimulating book by one with a cosmopolitan outlook on literature, and the general reader will also find interesting Stephen Leacock's *Humor, Its Theory and Technique.* Of more specialized appeal is Arthur E. Case's *A Bibliography of English Poetical Miscellanies, 1521-1750,* the result of many years of painstaking work. John E. Mason has traced in detail the history of English courtesy literature in a volume called *Gentlefolk in the Making* (Pennsylvania). The period covered is from 1531 to 1774, with a preliminary sketch of the forerunners of the type. Huntington Brown has compiled *The Classical Tradition in English Literature: A Bibliography* (*Harvard Studies and Notes*), while special aspects of classical influence are dealt with in D. L. Durling's *Georgic Tradition in English Poetry* (Columbia) and George D. Hadzsits' *Lucretius and His Influence. Primitivism and Related Ideas in Antiquity,* by Arthur O. Lovejoy and George Boas, is the first volume in *A Documentary History of Primitivism and Related Ideas.* A collection of *Essays in Dramatic Literature* by former students of Professor Parrott has been gathered into a presentation volume. Mention may be made of Charles G. Osgood's *The Voice of England: A History of English Literature.*

Two books intended for the general reader as well as the student deal with important types of literature: J. W. Linn and H. W. Taylor's *A Foreword to Fiction* and F. B. Millett and G. E. Bentley's *The Art of the Drama.* Stith Thompson has carried his invaluable *Motif-Index of Folk-Literature* (Indiana) through the fourth volume (J-K). An important theme in early literature is dealt with in Leonard P. Kurtz's *The Dance of Death and the Macabre Spirit in European Literature* (Columbia).

OLD ENGLISH LITERATURE (TO 1150)

Stephen J. Herben, Jr. proposes the identification of Hrothgar's hall ''Heorot'' (*PMLA*) with a hilltop farm noted on a map of 1780 bearing the rare names *Stor Hiort* and *Lille Hiort.* Kemp Malone discusses the name and identity of ''Healfdene'' (*EST*). Philip W. Souers has begun a full study of the Franks Casket with two articles, ''The Top of the Franks Casket'' and ''The Franks Casket: Left Side,'' both in *Harvard Studies and Notes.* Adeline C. Bartlett has published a dissertation on *The Larger Rhetorical Patterns in Anglo-Saxon Poetry* (Columbia). Rudolph Willard prints two short homiletic passages forming ''The Address of the Soul to the Body'' (*PMLA*).

MIDDLE ENGLISH LITERATURE (1150—1500)

In "The Riddle of the *Ormulum*" (*PQ*) Henry B. Hinckley argues, mainly on paleographic and linguistic grounds, for a date before 1150, rather than the traditional 1200. Clark H. Slover's "Glastonbury Abbey and the Fusing of English Literary Culture" (*Speculum*) offers evidence of Glastonbury's relations with Irish, Welsh, and other cultural currents and suggests the possibility of her influence through the transfer of her monks to other centers. Hope Emily Allen in "The Tortington Chartulary" (*LTLS*) seeks information about a lost chartulary for the light it would throw on Diorman of London, whose three daughters, with the consent of their brother Ordgar, gave London land to Westminster Abbey in return for fellowship in the church. These women she now believes identical with the Emma, Christina, and Gunhilda to whom the abbot of Westminster gave the hermitage of Kilburn about 1134 and for whom, she holds, the *Ancren Riwle* was originally written. In another paper, "The Three Daughters of Diorman" (*PMLA*) she discusses further the same possibility. Dorothy Bathurum, in "The Connection of the Katherine Group with Old English Prose" (*JEGP*), distinguishes between the style of the three saints' legends and that of the *Ancren Riwle, Sawles Warde,* and *Hali Meidenhad,* and traces the former to the influence of Aelfric's *Saints' Lives.* Kemp Malone offers textual "Notes on Middle English Lyrics" (*ELH*) based on Brown's *English Lyrics of the XIIIth Century.* Mary I. O'Sullivan has edited for her doctor's dissertation the romances of *Firumbras* and *Otrul and Roland* found in the Fillingham MS (*EETS,* No. 198) while another romance is the subject of a Princeton dissertation by George P. Faust: *Sir Degare, A Study of the Texts and Narrative Structure.* The religious drama has received a good bit of attention. Anna J. Mills prints records from the Bakers' accounts concerning "The York Bakers' Play of the Last Supper" (*MLR*). M. G. Frampton, on the basis of allusions to costume, assigns "The Date of the Flourishing of the 'Wakefield Master'" (*PMLA*) to the early part of the reign of Henry VI and finds confirmation of this date in the economic growth of Wakefield. H. M. Smyser and Thomas B. Strong have each published additional "Analogues to the Mak Story" (*Jour. of Amer. Folk-Lore*). In a valuable study, "The Langland Myth" (*PMLA*), Oscar Cargill collects much information about the Rokayle family and inclines to the belief that a son of Stacy de Rokayle was the author of the poem but that he was not illegitimate and was not William Langland. Eleanor H. Kellogg in "Bishop Brunton and the Fable of the Rats" (*PMLA*) fixes the date of delivery of the "rat" sermon as May 18, 1376, a *terminus a quo* for the allusion in the B- text of *Piers Plowman.* R. B. Haselden and H. C. Schulz, in a "Note on the Inscription in HM. 128" (*Huntington Library Bulletin*), offer evidence that the inscription "Robert or will*iam* langland made pers ploughma*n*" was written after the rebinding of the MS. about 1540.

Henry Bergen has completed his monumental edition of *Lydgate's Tray Book* with the publication of Part IV containing the introduction, notes, and other apparatus (*EETS,* Ex. Ser. CXXVI). Charlotte D' Evelyn has edited *Peter Idley's Instructions to His Son* (*MLA Monograph Ser.*). Various short didactic texts of the Fifteenth century are printed with appropriate commentary by Sanford B. Meech in "Early Application of Latin Grammar to English" (*PMLA*), "An Early Treatise in English Concerning Latin Grammar" (Michigan), and "Three Musical Treatises in English from a Fifteenth-Century Manuscript" (*Speculum*).

CHAUCER

Willard E. Martin's *A Chaucer Bibliography, 1925-1933* brings the subject almost up to date. Haldeen Braddy replies to Professor Manly in "The Historical Background of the Parlement of Foules" (*RES*) and Bertrand H. Bronson writes *In Appreciation of Chaucer's Parlement of Foules* (California). J. S. P. Tatlock holds to his former opinion in "The Date of the Troilus: and Minor Chauceriana" (*MLN*) arguing against a late date and opposing Root's planetary evidence. In the latter part of his paper he considers the friar in the *Summoner's Tale* a Carmelite and Chaucer's friar not particularized. In connection with this pilgrim Karl Young offers an interesting record of 1321 in which a vicar who had had two children by a certain young woman was compelled to pay six marks as an aid in securing for her an appropriate marriage. The incident may throw an oblique light on Chaucer's observation that the Friar had made many a marriage at his own cost. Tatlock's "The *Canterbury Tales* in 1400" (*PMLA*) takes an agnostic attitude towards the evidence of the MSS in determining the order of the tales, favors the exclusive use of internal evidence in solving the problem, and returns to the arrangement of the groups proposed by Furnivall. Clifford P. Lyons in "The Marriage Debate in the *Canterbury Tales*" (*ELH*) calls attention to the absence of any indication in the links pointing to an intention on Chaucer's part to make dramatic use of a debate on marriage. W. W. Lawrence in "Satire in *Sir Thopas*" (*PMLA*) attacks the theories of Miss Winstanley and Professor Manly that *Sir Thopas* was written as a satire on the Flemings. J. Burke Severs has shown conclusively that "The Source of Chaucer's *Melibeus*" (*PMLA*) is not *Le Menagier de Paris* but a version represented by a MS. (No. 1165) in the Bibliothèque Nationale. Other significant contributions to our understanding of the *Canterbury Tales* are made in Pauline Aiken's "Vincent of Beauvais and Dame Pertelote's Knowledge of Medicine" (*Speculum*), Haldeen Braddy's "The Two Petros in the Monkes Tale" (*PMLA*), W. O. Ross's "Another Analogue to *The Prioresses Tale*" (*MLN*), and Carleton Brown's edition of *The Pardoner's Tale*. The last named scholar has advanced the interesting theory and supported it with cogent reasoning that "Chaucer's *Wretched Engendring*" (*PMLA*), supposedly lost, is to be found in the poem formerly ascribed to Lydgate and published under the title, "An Holy Meditation." The year's work on Chaucer is of unusual interest.

ELIZABETHAN LITERATURE

Popular Works.—A comprehensive survey of books intended for the masses in Shakespeare's day is contained in Louis B. Wright's *Middle-Class Culture in Elizabethan England*. Hyder E. Rollins in "Thomas Deloney's Euphuistic Learning and *The Forest*" (*PMLA*) shows Deloney's heavy indebtedness to Thomas Fortescue's *The Forest* for much of his apparent learning, and in "Notes on the Sources of Melbancke's Philotimus" (*Harvard Studies and Notes*) adds many additional instances to those he has already published of Melbancke's amazing appropriations. Harold Jenkins endeavors to repel the attack of C. E. Sanders "On the Authenticity of Greene's *Groatsworth of Wit* and *The Repentance of Robert Greene*" (*RES*).

Non-dramatic Poetry.—Elizabethan non-dramatic poetry is the object of several interesting contributions. F. W. Weitzmann's "Notes on the Elizabethan *Elegie*" (*PMLA*) is a valuable attempt to define and classify the many different kinds of poem that passed as elegies. Lily B. Campbell, in "The Christian Muse" (*Huntington Libr. Bull.*) notes as one aspect of the Renaissance the effort to exalt Christian poetry over pagan and secular literature and traces the influence of Du Bartas's *Uranie* on Sidney, Spenser, and others. Ralph M. Sargent's *At the Court of Queen Elizabeth* is, as the sub-title indicates, The Life and Lyrics of Sir Edward Dyer. Ruth Hughey reports a discovery of great importance in "The Harington Manuscript at Arundel Castle and Related Documents" (*Library*), a miscellany of sixteenth-century verse, much of it unprinted, containing among other things the earliest evidence for Sidney's having written his sonnets to Lady Rich. Hoyt H. Hudson in "Penelope Devereux as Sidney's Stella" (*Huntington Libr. Bull.*) gathers the earliest allusions to Sidney and Lady Rich that can be interpreted as evidence for the identification. Theodore H. Banks's

''Sidney's *Astrophel and Stella* Reconsidered'' (*PMLA*) argues that the sequence is a conventional series of Petrarchan love sonnets without autobiographical significance, and James M. Purcell shows striking parallels of thought between ''Sidney's *Astrophel and Stella* and Greville's *Caelica*'' (*PMLA*). We may add to these Sidney items the article of J. S. P. Tatlock, ''Bernardo Tasso and Sidney'' (*Italica*), indicating that the *Apology for Poetry* chiefly reflects Sidney's reading while in Italy.

Spenser.—The activity of Spenser scholars is so great that only a small part of it can be mentioned here. Ronald B. Botting in ''The Composition of the *Shepheardes Calender*'' (*PMLA*) argues that the work was made up in part of poems of earlier date somewhat hurriedly revised and supplemented. Agnes D. Kuersteiner maintains that ''E. K. is Spenser'' (*PMLA*). Ernest A. Strathmann's ''Lady Carey and Spenser'' (*ELH*) offers fuller information about Lady Carey as a person and a literary patron, with some contraction of her importance as a patron of Spenser. Kerby Neill in ''The *Faerie Queene* and the Mary Stuart Controversy'' (*ELH*) surveys the controversy over Mary Stuart and interprets the treatment of Duessa in Books IV and V of the *Faerie Queene* against the background of this literature. J. M. Purcell applies the tests of color-word frequency and references to light and shade as indicating ''The Date of Spenser's *Mutabilitie* Cantos'' (*PMLA*) to be early. Roland M. Smith in ''Una and Duessa'' (*PMLA*) offers evidence for the Irish origin of the name Duessa. Rosamund Tuve proves in ''Spenser and the *Zodiake of Life*'' (*JEGP*) that the poet was indebted to Barnabe Googe's translation of Palingenius. E. C. Knowlton's ''Spenser and Nature'' (*JEGP*) carries on his earlier studies in the treatment of this allegorical feature.

Shakespeare.—The discussion of Shakespearian research must also be limited to a few principal items. S. A. Tannenbaum's ''Shakespeare and His Contemporaries in the Literature of 1934: A Classified Bibliography'' (*Shakespeare Assoc. Bull.*) makes its annual appearance. Considerable interest attaches to Leslie Hotson's communication to the London *Times* reporting the discovery of two hitherto unknown John Shakespeares of Stratford. The progress that is being made in the continuation of the Furness Variorum is reported by M. A. Shaaber in the *Proc. of the Amer. Philos. Soc.* Arthur C. Sprague's *Shakespeare and the Audience* is described in its subtitle as *A Study in the Technique of Exposition.* Allison Gaw raises the question ''Is Shakespeare's *Much Ado* A Revised Earlier Play?'' (*PMLA*), and answers it in the negative. Nadine Page's ''The Public Repudiation of Hero'' (*PMLA*) is an attempt to justify the behavior of Claudio and Hero in the light of Elizabethan views of women and marriage. Oscar J. Campbell in ''Jaques'' (*Huntington Libr. Bull.*) opposes Stoll's interpretation of Jaques, considers the various kinds of melancholy recognized in Shakespeare's time, and holds that the essential element in Jaques' melancholy is satire. Z. S. Fink's ''Jaques and the Malcontent Traveler'' (*PQ*) observes characteristics of the Italianate Englishman in the figure of Jaques. Several studies in the *Parrott Presentation Volume* mentioned above deal with Shakespeare. T. W. Baldwin's ''A Note upon William Shakespeare's Use of Pliny'', W. B. D. Henderson's ''Shakespeare's Troilus and Cressida Yet Deeper in Its Tradition'', stressing Lydgate's share among the sources of the play, Edward Hubler's ''The Verse Lining of the First Quarto of *King Lear*'', opposing the view that the first quarto is based upon a shorthand reporting, may be mentioned.

Dramatists.—Among Shakespeare's fellow dramatists *Thomas Lodge* has been studied again by Edward A. Tenney in a Cornell dissertation. Hardin Craig's ''Ethics in the Jacobean Drama: The Case of Chapman'', Charles W. Kennedy's ''Political Theory in the Plays of George Chapman'', and Lacy Lockert's ''The Greatest of Elizabethan Melodramas'', *The Revenger's Tragedy*, are all in the Parrott volume. John R. Moore's ''The Contemporary Significance of

Middleton's *Game at Chesse*'' (*PMLA*) is an illuminating comment on the play, suggesting the identification of characters, disproving Middleton's authorship of the introductory poem, and interpreting the allegory. Baldwin Maxwell offers further studies in the chronology of Fletcher's plays in ''The Date of Fletcher's *Night Walker*'' (*MLN*) and ''*The Woman's Prize, or The Tamer Tamed*'' (*MP*). John Wilson's *The Cheats* has been edited by Milton Nahm. Among papers on more general topics mention may be made of Samuel A. Small's ''The Influence of Seneca'' (*Shakespeare Assoc. Bull.*) and Allan H. Gilbert's ''Logic in the Elizabethan Drama'' (*SP*). Alfred B. Harbage has compiled a valuable list of ''Elizabethan and Seventeenth-Century Play Manuscripts'' (*PMLA*) containing more than 200 items. Theatrical history is represented by Robert B. Sharpe's *The Real War of the Theatres: Shakespeare's Fellows in Rivalry with the Admiral's Men, 1594-1603: Repertories, Devices, and Types* (*MLA Monograph Ser.*).

SEVENTEENTH CENTURY

Aspects of Thought.—Several aspects of seventeenth-century thought have been the subject of special treatment. W. Lee Ustick and Hoyt H. Hudson select a poem by William Dingley as the basis for a consideration of seventeenth-century wit; the title of their article is ''Wit, 'Mixt Wit', and the Bee in Amber'' (*Huntington Libr. Bull.*). George Williamson discusses ''Mutability, Decay, and Seventeenth Century Melancholy'' (*ELH*). Marjorie Nicholson has begun a series of papers on the effect of the discoveries of Kepler and Galileo upon the imagination. The first is ''The Telescope and Imagination'' (*MP*), and this is followed by ''The 'New Astronomy' and English Literary Imagination'' (*SP*), with special reference to Donne, and ''Milton and the Telescope'' (*ELH*).

Milton.—A number of important Milton studies have appeared. Wm. R. Parker writes ''On Milton's Early Literary Program'' (*MP*) and ''Some Problems in the Chronology of Milton's Early Poems'' (*RES*). Other papers by the same author are ''The Trinity Manuscript and Milton's Plans for a Tragedy'' (*JEGP*), ''Symmetry in Milton's *Samson Agonistes*'' (*MLN*), and ''The *Kommos* of Milton's *Samson Agonistes*'' (*SP*). Maurice Kelly discusses ''Milton and the Third Person of the Trinity'' (*SP*) and ''Milton's Debt to Wolleb's *Compendium Theologiae Cristianae*'' (*PLMA*). In ''Milton's Reply to Lord Digby'' (*RES*) George W. Whiting shows by parallels in the argument that Milton's *Of Reformation Touching Church Discipline* is directed specifically at Digby's speech in Parliament. He has also noted new parallels, particularly with Thomas May's *History of the Parliament of England*, in ''The Sources of *Eikonoklastes:* A Resurvey'' (*SP*). More general are J. Milton French's ''Milton as a Historian'' (*PMLA*), Elbert N. S. Thompson's ''Milton's Prose Style'' (*PQ*), and George Williamson's ''Milton and the Moralist Heresy'' (*SP*).

Restoration Stage.—Ruth C. Wallerstein has published *Richard Crashaw: A Study in Style and Poetic Development* (Wisconsin) and Austin Warren in ''Richard Crashaw, 'Catechist and Curate' '' (*MP*) has gleaned new facts about the poet from the records of Peterhouse and from diocesan archives. Sybil Rosenfeld collects the references to ''The Restoration Stage in Newspapers and Journal, 1660-1700'' (*MLR*). D. C. Croissant traces the principal specimens of ''Early Sentimental Comedy'' (Parrott volume) and Thos. B. Stroup, in ''*The Princess of Cleve* and Sentimental Comedy'' (*RES*), notes that the elements of sentimentality peculiar to the comedy of the late seventeenth and early eighteenth century are to be found in Lee's tragedy. John C. Hodges, ''On the Date of Congreve's Birth'' (*MP*), justifies the date 1670 and defends Congreve against the charge of misrepresenting his age and birthplace. Alfred Harbage's *Sir William Davenant, Poet Venturer, 1606-1668* is a biographical and critical study with much new material.

Dryden continues to retain his popularity with students. Roswell G. Ham in ''Dryden as Historiographer-Royal: The Authorship of *His Majesties Declaration Defended*, 1681'' (*RES*) attempts to discover the nature of Dryden's duties and offers interesting evidence, external and internal, for his authorship of the tract mentioned. Charles E. Ward in ''Massinger and Dryden'' (*ELH*) shows Dryden's indebtedness to Massinger in *Tyrannic Love.* George H. Nettleton calls attention to ''Author's Changes in Dryden's *Conquest of Grenada, Part I*'' (*MLN*).

Bunyan and Pepys.—Daniel Gibson, Jr., ''On the Genesis of *Pilgrim's Progress*'' (*MP*), notes the occurrence of many conceptions later embodied in the *Pilgrim's Progress* in earlier writings of Bunyan, notably in the tract called *The Heavenly Footman.* Two interesting books on Pepys have been published by Clara Marburg (*Mr. Pepys and Mr. Evelyn*) and her husband, Rudolf Kirk (*Mr. Pepys on the State of Christ-Hospital*).

EIGHTEENTH CENTURY

Louis I. Bredvold's current bibliography of the Eighteenth century has been mentioned at the beginning of this article. Wm. T. Morgan has published the first volume of *A Bibliography of British History (1700-1715), with Special Reference to the Reign of Queen Anne* (Indiana), covering the years 1700-1707. It is naturally of value also to the literary historian. Studies of the characteristics of the Augustan age include F. C. Green's *Minuet: A Critical Survey of French and English Literary Ideas in the Eighteenth Century;* R. W. Frantz's *The English Traveller and the Movement of Ideas, 1660-1732* (Nebraska); Samuel H. Monk's *The Sublime: A Study of Critical Theories in XVIII-Century England* (*MLA General Series*); George Williamson's ''The Rhetorical Pattern of Neo-classical Wit'' (*MP*); Miss Elizabeth Nitchie's ''Longinus and the Theory of Poetic Imitation in Seventeenth and Eighteenth Century England'' (*SP*); and Donald F. Bond's '' 'Distrust' of Imagination in English Neo-classicism'' (*PQ*). Willard H. Bonner's volume recreates the figure of *Captain William Dampier, Buccaneer-Author. Some Account of a Modest Buccaneer and of English Travel Literature in the Early Eighteenth Century.* Herbert Davis has prepared a critical edition of *The Drapier's Letters to the People of Ireland against receiving Wood's Halfpence, by Jonathan Swift.* Lester M. Beattie has published a book on Pope's friend, *John Arbuthnot, Mathematician and Satirist* (Harvard). Gerald E. Jensen, in ''A Fielding Discovery'' (*Yale Univ. Libr. Gazette*), offers evidence for Fielding's authorship of *An Attempt towards a Natural History of the Hanover Rat* (1744). An authoritative edition of the *Letters of Laurence Sterne* has been prepared by Lewis P. Curtis, who also discusses some ''Forged Letters of Laurence Sterne'' in *PMLA.* Mrs. Lennox is the subject of a biography by Miriam R. Small in *Charlotte Ramsay Lennox: An Eighteenth Century Lady of Letters* (Yale). Arthur Friedman, in ''Goldsmith and the *Weekly Magazine*'' (*MP*), shows that Goldsmith was a contributor to this short-lived weekly, identifies two essays with fair certainty, and considers others on which the evidence is admittedly less final. Interesting as a minor current is Robert G. Noyes' ''The Contemporary Reception of [Henry Carey's] Sally in Our Alley'' (*Harvard Studies and Notes*). *George Colman the Elder, Essayist, Dramatist, and Theatrical Manager, 1732-1794* is a Columbia dissertation by Eugene R. Page. Finally we may note two interesting Burns items: Robert T. Fitzhugh's ''The Paradox of Burns' Character'' (*SP*), containing new documentary evidence on Burns' behavior while living in Dumfries; and Franklyn B. Snyder's ''Burns and the Smuggler *Rosamund*'' (*PMLA*), telling the story of the incident on the basis of documents formerly belonging to Scott, including two sheets in Burns' handwriting.

NINETEENTH CENTURY

A Victorian bibliography has been mentioned in the introductory paragraph of this article. Here attention must be confined to some of the larger contributions. Willard L. Sperry considers *Wordsworth's Anti-Climax*

(Harvard). Virginia W. Kennedy and Mary E. Barton have compiled *Samuel Taylor Coleridge: A Selected Bibliography* (Enoch Pratt Library). Frances Winwar's *The Romantic Rebels* treats the biographies of Byron, Shelley, and Keats. W. J. Calvert has written *Byron, Romantic Paradox.* Frederick L. Jones in ''Shelley's *Leonora*'' (*MP*) makes clear that the novel was almost entirely the work of Hogg. Edith C. Johnson in *Lamb Always Elia* views the essays of Elia not as an escape but as a natural product of Lamb's mind. Significant studies of minor writers include Richard W. Armour's *Barry Cornwall: A Biography of Bryan Waller Procter, with a Selected Collection of Hitherto Unpublished Letters,* Felice Elkin's *Walter Savage Landor's Studies of Italian Life and Literature* (Pennsylvania), and Gilbert Macbeth's *John Gibson Lockhart: A Critical Study* (Illinois). A much needed book is Wm. C. De Vane's *A Browning Handbook,* a comprehensive guide to the poet. Martha H. Shackford has combined *E. B. Browning; R. H. Horne: Two Studies,* and 22 unpublished letters of the Brownings have been published with commentary by Wm. R. Benét in the *Woman's Home Companion* under the title ''Addressed to Wimpole Street.'' Albert P. Elliott's *Fatalism in the Works of Thomas Hardy* is a Pennsylvania dissertation. The centenary of the birth of Samuel Butler has called forth a number of essays, among which may be mentioned those of Herbert Davis (*Univ. of Toronto Qu.*) and Paul Jordan-Smith (*Colophon*). Calvert Alexander has discussed *The Catholic Literary Revival: Three Phases in Its Development from 1845 to the Present.*

CONTEMPORARY LITERATURE

''An Annotated Bibliography of Contemporary Literature for 1934: A Partial List'' appears in the *English Journal.* Chauncey B. Tinker discusses ''Housman's Poetry'' in the *Yale Review.* Burns Martin surveys ''The English Novel since 1900'' (*Dalhousie Rev.*) and L. A. G. Strong discusses ''James Joyce and the New Fiction'' (*Amer. Mercury*). Elizabeth Schneider points out an interesting parallel between stories of ''Katherine Mansfield and Chekhov'' (*MLN*) and Miriam H. Wood notes striking verbal and other agreements with *Memoirs of the Countess de Boigne* as indicating ''A Source of Conrad's *Suspense*'' (*MLN*). The source of ''The Plot of Conrad's *The Duel*'' (*MLN*) has been traced by J. Delancey Ferguson to an early number of *Harper's Magazine.* The study of contemporary literature is limited more or less to smaller topics by the very proximity of that literature. For a more comprehensive view we must await the perspective of time.

GERMANIC LANGUAGES AND LITERATURE

By F. W. Kaufmann

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GROWTH IN PHILOSOPHICAL APPROACH TO LITERATURE

Judging from the printed material published during the 1935 period, one might be inclined to state a decreasing interest in the field of Germanic philology and literature. There are, however, several major investigations which are either waiting for publication or approaching the final stage. In contrast with former years, there seems to be a lessening activity in the modern German field, undoubtedly due to political developments which make an objective treatment of contemporary authors rather difficult, at least as long as they have not taken a definite stand with regard to the present régime. On the other hand, there is some indication that the interest in the philosophical rather than the philological approach to literature is slowly but steadily growing. The present reviewer, who has for a number of years applied the philosophical method in his literary interpretations (GR, MfdU),* welcomes the strong support given to this method in E. Jockers' article *Philosophie und Literaturwissenschaft* (GR). Like Professor M. Schütze in his book *Academic Illusions* (see THE AMERICAN YEAR BOOK, 1934), he challenges the one-sidedness of purely philological factualism in the study of literature and favors an approach which considers the problematic spiritual situation of the author a more important factor than the non-philosophical interpreter may realize.

PHILOLOGICAL STUDIES

L. Haessler's monograph *Old High German biteilen and biskerien* (Linguistic Society of America) is part of a study on the Germanic prefix be-, especially concerned with the origin and development of the privative meaning of the prefix in Old High German and Old English. H. E. Sehrt and T. Starck published the third instalment of the critical edition of *Notkers des Deutschen Werke, Boethius de consolatione philosophiae,* books III and IV-V (Niemeyer, Halle, Germany), continuing the careful normalization of Anlaut and accentuation applied in the previous instalments.

SPIRITUAL AND MORAL STUDIES

C. A. Williams continues his studies on the legends about the early Christian solitaire Johannes Paulus by the publication of *The German Legends of the Hairy Anchorite* (University of Illinois) edited together with two Old French texts of *La Vie de Saint Jehan Paulus.* C. F. Bayerschmidt edited the text of *A Middle Low German Book of Kings* (Stechert, New York) preserved in a history Bible of the 15th Century at Lübeck, Germany. The introduction contains a study of the religious-literary background, the manuscripts and their language. The interest in 13th Century German literature is kept awake by M. P. Goetz's monograph on the *Concept of Nobility in German Didactic Literature of the Thirteenth Century* (Catholic Unviersity, Washington, D.C.). In an article *From Ethos to Pathos: The Development from Gryphius to Lohenstein,* W. P. Friederich characterizes the works of the two authors of the Baroque period as the representatives of the two extreme forms of thought, of stern moral and religious Ethos in the former author and sensationalism, coarse sensuality, and rationalism in the works of the latter. M. L. Wolfskehl in a monograph *Die Jesusminne in der Lyrik des deutschen Barock* (Giessener Beiträge zur deutschen Philologie, Gieszen, Germany) studies the relation between religion and sensualism in the worship of Christ as expressed in the poetry of the 16th and 17th Centuries. She finds the difference between Catholic and Protestant poetry in that the former is more didactic and more sensual, whereas the latter is more intellectualistic and individualistic. After a general introduction to the spiritual situation from which the peculiar mixture of sensualism and mysticism in this period arose, the author examines the two aspects of Jesusminne, the kindliche Eros and the Brautmystik.

GOETHE, SCHILLER AND OTHERS

M. Sommerfeld collects in *Goethe in Umwelt und Folgezeit* (Leiden, Holland) a number of previous Goethe studies on different topics as the relation of Rousseau's *Confessions* to Goethe's *Dichtung und Wahrheit,* of Reinholz' *Lenz* to Goethe's *Werther,* Goethe's early esthetic writings, Autobiographies from Goethe to Nietzsche, etc. W. Wadepuhl, in *Goethe's Interest in the New World* (Frommann, Jena, Germany), offers a detailed report on this topic with reference to the material in America in Goethe's library. F. A. Leuchs gives as complete an account as newspapers and other sources allow on the presentation of dramas in *Goethe on the American Stage* (GR), in the main restricting himself to the German stage of New York City. O. P. Peterson in his book *Schiller in Russia 1785-1805* (New York) gives a detailed report on the performances of Schiller's works on the Russian stage and studies the influence of his dramas, lyric poetry, his esthetic and ethical views on the Russian thought of the late 18th and the early 19th Centuries. E. H. Zeydel continues his Tieck studies with the publication of the Romanticist's unfinished essay *Über das Erhabene* (PMLA). F. Spiecker, in *Clemens Brentano and Luise Hensel* (JEGP) studies, on the basis of the complete manuscript material of the poetess, the meeting of the two Romantic authors in the year 1816 which proved fruitful for their poetic creation but fateful for their lives. He also publishes *Die Gärtnerlieder aus dem Singpiel Die schöne Müllerin* (GR) from Luise Hensel's literary remains. F. H. Wood studies *Heine as a Critic of His Own Works* (Stechert, New York City) in his prefaces, letters, etc. and reveals the same polarity which is to be found in his work, between self-assertion and doubts in the final literary recognition. E. Feise, in *Hauptmann's Einsame Menschen und Ibsens Rosmersholm* (GR) shows in a detailed analysis and comparison of the two dramas, how Ibsen in spite of many deterministic elements essentially continue the idealistic tradition of portraying the triumph of moral personality, whereas Hauptmann's hero, in spite of his striving for moral freedom, breaks down under the strain of two conflicting impulses. Thus, he reveals the difficulty of naturalism to create a tragic effect which arises from deliberate neglect of the category of finality in favor of causality. F. Ilmer's article *Schnitzler's Attitudes with Regard to the Transcendental* (GR) provides additional proof that Schnitzler's impressionism is not to be identified with materialism in his outlook on problems of life. Although he was skeptic enough not to be absolutely convinced of the existence of a transcendental Being, he possessed a spirit of reverence for the miracles of existence and of life which prevented any atheistic disbelief.

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* Abbreviations: GR = Germanic Review; JEGP = Journal of English and Germanic Philology; MfdU = Monatshefte für deutschen Unterricht; PMLA = Publications of the Modern Language Association.

SUSPENSE ELEMENT IN NARRATIVE

M. F. Lawson, in a monograph *Spannung in der Erzählung* (Mnemosyne, Heft 19, Bonn, Germany), studies the technique of awakening suspense both in cheaper and better narrative. The plot alone may attract simply by unusualness of subject or complication of construction; more important is the manner of unfolding the plot; the analytic method of beginning with a finished and unexplained situation, the false conclusion rendered plausible, sudden surprise, advance knowledge of pending catastrophe, change of vantage-point by both the reader and narrator. Whether such suspense, largely of curiosity, can be reproduced on second reading leads to discussion of another suspense purely of emotions; this question of repetition and emotional depth involve the literary evaluation of narrative using suspense methods.

ROMANCE LANGUAGES AND LITERATURE

By George Irving Dale

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BIBLIOGRAPHIES

During the year 1935 the following books and articles on French, Italian and Spanish topics were published: "L'Année Littéraire Mil Neuf Cent Trente-Quatre" (*MLJ*)* by A.

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* Abbreviations: B.M., Bryn Mawr; Cal., University of California Press; Chi., University of Chicago Press; *Colo., University of Colorado Studies;* C.U., Columbia University Press; *FR, French Review;* Harv., Harvard University Press; *Hisp., Hispania; HR, Hispanic Review;* IFS, Institute of French Studies; *Ital., Italica;* JHP, The Johns Hopkins Press; *L, Language; MLJ, Modern Language Journal; MLN, Modern Language Notes;* Mo., University of Missouri; *MP, Modern Philology;* Penn., University of Pennsylvania; *PMLA, Publications of the Modern Language Association of America; PQ, Philological Quarterly;* Prin., Princeton University Press; *RHM, Revista Hispanica Moderna; RR, Romanic Review; S, Speculum; SP, Studies in Philology; SR, Spanish Review;* Yale, Yale University Press.

Schinz; ‘‘A Bibliography of French-Canadian Poetry’’ (IFS) by I. F. Fraser; ‘‘Corrections and Additions to Bengesco’s ‘Bibliographie’ ’’ (*MLN*) by F. J. Crowley; ‘‘A Bibliography of Italian Studies in America’’ (*Ital*) by J. E. Shaw; ‘‘Italian Renaissance Studies in 1934’’ (*SP*) by W. L. Bullock; ‘‘A Bibliography of the Belles-Lettres of Venezuela’’ (Harv) by S. M. Waxman; ‘‘Bibliografía de F. Rolán’’ (*RHM*) by J. Guerrero Ruiz; ‘‘Bibliografía de García Lorca’’ (*RHM*) by S. C. Rosenbaum and J. Guerrero Ruiz; ‘‘Bibliografía de Santos Chocano’’ (*RHM*) by S. C. Rosenbaum; ‘‘A Bibliography of Articles in General Literary Criticism in *Nosotros* (volumes I-LXXVII)’’ (IFS) by M. W. Nichols and L. B. Kinnaird. Each issue of the *RHM* contains a very complete ‘‘Bibliografía Hispanoamericana.’’

LINGUISTICS

A study of the ‘‘Survival of French in the Old District of Sainte-Genevieve’’ (Mo) was made by W. A. Dorrance, and G. S. Lane contributed ‘‘Notes on Louisiana French’’ (*L*). Other studies on French linguistics include: ‘‘French Words with *e* for *o* in Unaccented Initial Syllables’’ (*L*) by U. T. Holmes; ‘‘The Chronology of French Loan Words in English’’ (*MLN*) by A. C. Baugh; ‘‘The Etymology of *meschino* and its Cognates’’ (*L*) by E. A. Speiser; ‘‘More on *trobar e entendre*’’ (*RR*) by A. H. Schutz; ‘‘L’Accent Allemand dans Balzac’’ (*MLN*) by R. Daudon; ‘‘On Certain Adverbial and Semi-Adverbial Uses of *bel, beau* in Old French’’ (Colo) by P.-L. Faye. Of interest to Hispanists are: ‘‘ ‘Fer,’ ‘far,’ ‘facer,’ ‘façer,’ ‘fazer’ in Three Works of Berceo’’ (*HR*) by E. B. Williams; ‘‘The Etymology of Spanish ‘corral,’ ‘loco,’ ‘mozo’ ’’ (*HR*) by C. C. Rice; ‘‘The Etymology of Spanish ‘bastar,’ ‘despachar,’ ‘rajar,’ and ‘regunzar’ ’’ (*HR*) by C. C. Rice; ‘‘Portuguese Intervocalic ‘n’ ’’ (*MLN*) by E. B. Williams; ‘‘Shift of Stress in Proparoxytonic Verb Forms of the First Conjugation in Portuguese’’ (*RR*) by E. B. Williams. R. Altrocchi has collected a list of ‘‘Deceptive Cognates: Italian-English and English-Italian’’ (Chi). Other linguistic studies are: ‘‘A West-Romanic Sound Law’’ (*RR*) by E. H. Tuttle; ‘‘Secondary Romance Imperfects’’ (*RR*) by R. B. Williams; ‘‘Romance Etymologies’’ (*L*) by C. C. Rice; ‘‘Some Observations on the So-Called Plural of Majesty, or Plural of Reverence’’ (Colo) by E. B. Place.

FRENCH

Medieval.—The following editions of Old French texts have been made accessible: *Yon or la Venjance Fromondin, a 13th Century Chanson de Geste* (IFS) edited by S. R. Mitchneck; *La Prise de Defur and le Voyage d’Alexandre au Paradis Terrestre* (Prin) edited by P. G. Peckham and M. S. LaDu; *Five Versions of the Venjance Alixandre* (Prin) edited by E. B. Ham. A study entitled *Les Juifs dans la Littérature Française du Môyen Âge* (IFS) was published by M. Lifschitz-Golden, and *A Study of the Themes of the Resurrection in the Mediaeval French Drama* (B.M.) by J. G. Wright. Articles on medieval subjects include: ‘‘Le Roi Flore et la Belle Jehane’’ (*PQ*) by J. Levy; ‘‘Proverbs in the Writings of Jean Froissart’’ (*S*) by B. J. Whiting; ‘‘Chrétien de Troyes Rediscovered’’ (*MP*) by L.-A. Vigneras; ‘‘New Studies on Jean Renart: The Date of the *Escoufle*’’ (*MP*) by V. F. Koenig; ‘‘Girart de Rossillon, an Exception in Text Criticism’’ (*MP*) by E. B. Ham; ‘‘A Missing Chapter in the *Vie de Tobie*’’ (*MP*) by R. J. Dean; ‘‘Wine Reckonings in Bodel’s *Jeu de S. Nicolas*’’ (*MLN*) by G. Frank; ‘‘The Sources of *Fouke Fitz Warin*’’ (*MLN*) by S. Painter; ‘‘A Mediaeval French Analogue to the Dunmow Flitch’’ (*MLN*) by C. L. Shaver; ‘‘The Date of Ciperis de Vignevaux’’ (*MLN*) a discussion by A. H. Krappe and A. Steiner; ‘‘Chrétien de Troyes, the First French Psychological Novelist’’ (*FR*) by R. Anacker; ‘‘The Troubadours of Peire d’Alvernhe’s Satire in Spain’’ (*PMLA*) by W. T. Pattison; ‘‘The Magic Chessboard in the Perlesvaus: an Example of Medieval Literary Borrowing’’ (*PMLA*) by B. Weinberg; ‘‘Honoré Bonet, a Fourteenth-Century Critic of Chivalry'' (*PMLA*) by R. L. Kilgour; ''Nicole Oresme's First Work in French'' (*RR*) by A. D. Menut; ''The Consaus d'Amours of Richard de Fournival'' (*SP*) by W. M. McLeod.

Sixteenth Century.—This century was practically neglected by American scholarship in 1935. The following three articles pertain to it: ''A Sixteenth-Century Substitution in the *Roman de Mandevie*'' (*MLN*) by R. E. Pike; ''A Note on Desportes and Du Bellay'' (*MLN*) by A. Cameron; ''Montaigne—a 1533 Philosopher with 1933 Ideas'' (*FR*) by C. Colla.

Seventeenth Century.—R. A. Aubin discusses ''Saint-Amant as 'Preromantic' '' (*MLN*), while M. Baudin writes of '' 'L'Art de Régner' in XVIIth Century French Tragedy'' (*MLN*). Other articles are: ''La marquise du *Bourgeois Gentilhomme*'' (*MLN*) by R. Talamon; ''Information Furnished by the *Mercure Galant* on the French Provincial Academies in the Seventeenth Century'' (*PMLA*) by M. E. Storer; ''M. de la Cochonnière—Apostle of Laziness'' (*FR*) by H. W. Streeter; ''Le Père Bouhours et le Tasse'' (*MLN*) by C. B. Beall.

Eighteenth Century.—Voltaire is represented by a long study entitled ''The Attitude of Voltaire to Magic and the Sciences'' (C.U.) by M. S. Libby. Shorter articles on Voltaire include: ''Voltaire and Baillet's Manual of Pseudonyms'' (*MLN*) by I. Wade; ''Some Neglected Letters of Voltaire'' (*MLN*) by F. J. Crowley; ''Some Judgments of Voltaire by Contemporaries'' (*MLN*) by C. M. Crist; ''Voltaire and Malesherbes'' (*FR*) by I. Wade. Further contributions are: ''Some Notes on Volange and Janot'' (*MLN*) by C. D. Brenner; ''A French Adaptation of *Sandford and Merton*'' (*MLN*) by J.-M. Carrière; ''Diderot and his Brother'' (*RR*) by E. A. Naughton.

Nineteenth Century.—Two writers proclaim the modernity of Victor Hugo: E. M. Grant in ''Victor Hugo and the Doctrine of the Right to Work'' (*MLN*), and A. Schinz in ''Victor Hugo, le Grand Poète Humanitaire; Champion de la Cause de la Paix Universelle; Promoteur de l'Idée des États-Unis d'Europe'' (*FR*). The following additional topics have also appeared: ''The Centenary of Alfred de Vigny's *Chatterton*'' (*MLJ*) by G. N. Henning; ''The Background of Erckmann-Chatrian'' (*FR*) by H. March; ''Another Feminine Answer to Chateaubriand's Slighting Remarks Made about Venice in 1805'' (*MLN*) by E. Malakis; ''Anti-Slavery Opinion in the Poems of Some Early French Followers of James Thomson'' (*MLN*) by E. D. Seeber; ''Baudelaire and 'monstrum horrendum, informe, ingens' '' (*MLN*) by G. N. Henning; '' 'Une tranche de vie' '' (*MLN*) by G. I. Dale; ''*L'Été de la Saint Martin* and *Le Consentement Forcé*'' (*MLN*) by E. C. Frederick.

Contemporary Literature.—The moderns receive consideration in: ''Porto-Riche et Rostand'' (*MLN*) by R. Talamon; ''The Poetry of Léon-Paul Fargue'' (*FR*) by S. A. Rhodes; ''Jean Sarment and the French Theatre'' (*RR*) by M. E. Storer; ''Le Style de Jules Romains'' (*RR*) by L. Jordan.

ITALIAN

Italica dedicated a memorial number to Professor C. H. Grandgent of Harvard and published the following articles in his honor: ''Italian Fables of the Eighteenth Century'' by K. McKenzie; ''The Serpent in Ante-Purgatory'' by J. B. Fletcher; ''Vitale Papazzoni'' by W. L. Bullock; ''Bernardo Tasso and Sidney'' by J. S. P. Tatlock; ''Gleanings from 'Dante's Latin Dictionary' '' by H. D. Austin; ''An Unknown Edition of the *Rime* of Petrarch'' by G. L. Hamilton; ''Raimbautz's *D'una Dona-M Tuelh e-M Lays*'' by B. P. Bourland and T. G. Bergin; ''The Commentary of Dino del Garbo on Cavalcanti's *Canzone d'Amore* Compared with the Italian Translation'' by J. E. Shaw; ''The Present Status of Dante Iconography'' by R. Altrocchi; ''Two Versions of a Fourteenth Century *pater noster* in Italian'' by L. H. Gordon; ''Piero Maroncelli's Religion'' by A. H. Lograsso; ''L'Accademia della Crusca'' by C. K. Moore; ''Recent Interpretations of the Renaissance'' by R. P. Oliver; ''Notes on the Oxford Manuscripts of Cecco d'Ascoli's *Acer-*

ba'' by J. P. Rice; ''Benedetto Croce e la Critica'' by D. Vittorini; ''Boccaccio in the Works of Mario Equicola'' by C. P. Merlino; ''The Revised Version of Brunetto Latini's *Tresor*'' by F. J. Carmody. Two short articles of interest are: ''Parole Identiche in the Sonnet and Other Verse Forms'' (*PMLA*) by J. G. Fucilla, and ''Italian Literature in 1934'' (*MLJ*) by O. A. Bontempo. A longer work bears the title ''Materials for a Life of Jacopo de Voragine'' (H. W. Wilson Co.) by E. C. Richardson.

SPANISH

Medieval.—For the benefit of the legal profession S. P. Scott has published *Las Siete Partidas: An English Translation* (Commercial Clearing House). The following articles are concerned with the structural side of poetry: ''Irregular Hemistichs in the *Milagros* of Gonzalo de Berceo'' (*PMLA*) by H. H. Arnold; ''Twelfth-Century Epic Forms in Fourteenth-Century Chronicles'' (*RR*) by T. Babbitt; ''La Poesía Arábigo-Andaluza y su Influencia'' (*RHM*) by A. Gonzáles Palencia. Other articles include: ''The Development of a National Theme in Medieval Castilian Literature'' (*HR*) by G. Davis, and ''The *Corvacho* Version of the *Husband Locked Out* Story'' (*RR*) by D. P. Rotunda.

Golden Age.—Interest in the tercentenary of Lope de Vega's death is manifested by the following: ''Lope de Vega. Cancionero Teatral'' (*JHP*) with prologue and notes by J. Robles Pazos; ''The *Romancero* in *El Bastardo Mudarra* of Lope de Vega'' (*Hisp*) by E. R. Price; ''Sobre la Fecha de *Fuente Ovejuna*'' (*MLN*) by J. Robles Pazos; ''Lope de Vega, 1562-1635'' (*MLJ*) by R. Schevill; ''Lope de Vega's *La Conquista de Cortés* and *El Marqués del Valle*'' (*HR*) by W. L. Fichter; ''Lope de Vega and the Golden Age'' (*HR*) by R. Schevill; ''Lope de Vega y las Unidades Dramáticas'' (*HR*) by M. Romera Navarro; ''A Manuscript Copy of the Lost Autograph of Lope de Vega's *Al Pasar del Arroyo*'' (*HR*) by W. L. Fichter; ''The Mother in the Comedia of Lope de Vega'' (*HR*) by E. H. Templin; ''A Note on Lope de Vega and the *Romancero*'' (*HR*) by J. Moore; ''On the Chronology of some Plays by Lope de Vega'' (*HR*) by C. Bruerton. There have also been published by the University of California Press four of Lope de Vega's plays printed directly from his final autograph manuscript. They are: *El Desdén Vengado*, edited by I. A. Leonard; *La Batalla del Honor*, edited by R. K. Spaulding; *El Cordobés Valeroso Pedro Carbonero*, edited by M. A. Zeitlin, and *La Prueba de los Amigos*, edited by L. B. Simpson. A moot point in the *Quixote* is discussed twice: ''The Most Difficult Passage of *Don Quijote*'' (*MLN*) by H. H. Arnold, and ''Sobre el Pasaje del *Quijote* Referente al *Tirant lo Blanch*'' (*MLN*) by A. Centeno. Other studies are: ''The First Novel of Letters: the *Processo de Cartas de Amores* of Juan de Segura'' (*SR*) by E. B. Place; ''An Italian Translation of *Lazarillo de Tormes*'' (*HR*) by E. R. Sims; ''On the Beltenebros Episode in the *Amadis*'' (*HR*) by B. Matulka; ''Algunos Aspectos de la Evolución del Romancero'' (*Hisp*) by E. Pérez; ''Notes on the Lucianesque Dialogues of B. L. de Argensola'' (*HR*) by O. H. Green; ''The Scholarship of Luis de León'' (*RR*) by W. J. Entwistle; ''Góngora's Use of Proverbs'' (*Hisp*) by E. J. Gates. Further studies involving the drama comprise: ''Some Aspects of the Grotesque in the Drama of the Siglo de Oro'' (*Hisp*) by S. E. Leavitt; ''The Courtly Cid Theme in Calderón's *Afectos de Odio y Amor*'' (*Hisp*) by B. Matulka; ''The Five *Partes* of Tirso de Molina'' (*HR*) by A. H. Bushee; ''Concerning Seven MSS Linked with Moreto's Name'' (*HR*) by R. L. Kennedy. Gracián is dealt with in three articles: ''On Two Criticisms of Gracián's *Agudeza*'' (*HR*) by E. Sarmiento; ''Un Hermano Imaginario de Gracián'' (*HR*) by M. Romera Navarro; ''Sobre la Moral de Gracián'' (*HR*) by M. Romera Navarro.

Eighteenth Century.—This neglected period is represented by three articles: ''Comments on 18th Century 'purismo' '' (*HR*) by A. Rubio; ''Richardson in Spain'' (*HR*) by A.

M. Coe; "An Eighteenth Century Liberal Review of Reviews: *El Espíritu de los Mejores Diarios*" (*SR*) by J. R. Spell.

Modern.—This period includes both the Nineteenth and Twentieth centuries. Articles devoted especially to the Nineteenth century include: "A Decade of Notes on Spanish Poetry" (*SP*) by J. G. Fucilla; "Gustavo Adolfo Bécquer and the Modernists" (*HR*) by C. F. Fraker; "*La Nochebuena de 1836* y su Modelo Horaciano" (*MLN*) by A. Centeno; "Amós de Escalante, 1831-1902: A Montañés Poet" (*Hisp*) by H. S. Nicholson; "*Marianela* y *De l'Intelligence* de Taine" (*PMLA*) by J. Casalduero; "Galdós' Literary Apprenticeship" (*HR*) by H. C. Berkowitz. H. C. Berkowitz has also made available in full: "*Un Joven de Provecho:* an Unpublished Play by B. Pérez Galdós" (*PMLA*). The Twentieth century is ably studied by C. Barja in his "Libros y Autores Contemporáneos" (Stechert). Other studies of the moderns comprise: "Literary Criticism in the Essays of the Generation of 1898" (*Hisp*) by M. E. Buffum; "Azorín y Cervantes" (*MLJ*) by J. A. Balseiro; "Rubén Darío y los Críticos Chilenos" (*RHM*) by J. Englekirk; "Rubén Darío's First sonnets in Alexandrines" (*PQ*) by E. K. Mapes, who also published a Spanish version of the article in *RHM;* "El Poeta García Lorca" (*RHM*) by A. del Río; "Caricatura Lírica de Federico García Lorca" (*RHM*) by J. R. Jiménez; "Folkloric Elements in Valle-Inclán" (*HR*) by R. Seeleman.

Spanish America.—A long study by S. Cuthbertson treats of "The Poetry of José Mármol" (Colo). Shorter articles include: "José Santos Chocano" (*RHM*) by A. Torres Ríoseco; "The 'discovery' of *Los de Abajo*" (*Hisp*) by J. Englekirk; "The Costumbrista Movement in Mexico" (*PMLA*) by J. R. Spell; "New-Mexican Spanish 'Coplas Populares'" (*Hisp*) by A. M. Espinosa; "Spanish Literature in Indian Languages of New Spain" (*SR*) by D. L. Canfield.

PORTUGUESE

Aside from the linguistic studies Portuguese is represented by but two articles: "A Miscellany of Portuguese Imitations" (*HR*) by J. G. Fucilla, and "Prolegomena to an Edition of Fernão Lopes" (*HR*) by W. J. Entwistle.

FOREIGN INFLUENCE

French.—Acknowledgment is made to French influence in the following cases: "The Debt of the Spanish *Libro de Alexandre* to the French *Roman d'Alexandre* (Prin) by R. S. Willis, Jr.; "The Relationship of the Spanish *Libro de Alexandre* to the *Alexandreis* of Gautier Chatillon" (Prin) by R. S. Willis, Jr.; "Innovation and French Influence in the Metrics of Rubén Darío" (*PMLA*) by E. K. Mapes; "Balzac Precursor of Eugene O'Neill" (*FR*) by H. H. Thornton; "Goldoni and the French Theater" (*MLJ*) by B. Young.

Italian.—France's debt to Italy is revealed in: "Desportes and Ariosto: Additional Sources in the *Orlando* and the *Liriche*" (*MLN*) by A. Cameron, and "Le Père Bouhours et le Tasse" (*MLN*) by C. B. Beall.

Spanish.—H. C. Lancaster discusses "Lope's *Peregrino*, Hardy, Rotrou and Beys" (*MLN*). New world influence is suggested by H. A. Holmes in "The Influence of Uruguay on the Mind of the Count of Lautréamont."

Miscellaneous.—An interesting account entitled "Islam and the Occident" (*Hisp*) does credit to the learning of A. González Palencia. R. S. Boggs discusses the proverb "Let Him Buy You who Does not Know You" (*SP*) especially in its relation to Spain. Folklore "Notes on Spanish 'Cuentos Edificativos'" (*HR*) are continued by A. H. Krappe. E. M. Grimes writes of the French-Canadian "Louis Fréchette" (*FR*). An article by A. Arias discusses "Virgilio en Castellano" (*Hisp*). "Alhambraism" (*HR*) is the title of an article by M. A. Buchanan. Teachers will be interested in the *Modern Language Teacher's Handbook* (Heath) by T. E. Oliver, while teachers and scholars will find useful "A Bibliography of Theses Dealing with Hispano-American Literature" (*Hisp*) by S. E. Leavitt.

LATIN LITERATURE

By Frank Gardner Moore

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THE LOEB CLASSICAL LIBRARY

Recent additions to this collection are: *Celsus, De Medicina* (vol. 1), text and translation by W. G. Spencer; *Cicero, Verrine Orations* (vol. 2), by L. H. G. Greenwood; *Livy,* books 31-37 (vols. 9 and 10), by E. T. Sage; *Remains of Old Latin* (vol. 1), by E. H. Warmington; also a revised edition of *Vergil, Aeneid,* 7-12, with the *Minor Poems* (vol. 2), by H. R. Fairclough.

THE LATIN WRITERS*

Horace.—Horace celebrations bimillennial being the order of the day, though a whole year in advance of the real date, papers dealing with the poet or his works have recently appeared, but no work of major importance. Addresses, such as that of L. J. Richardson, "Q. Horatius Flaccus," Berkeley, 1935, are appearing and will appear. *C.J.* following the example of some European journals has devoted an entire number to him, containing the following contributions: R. C. Flickinger, *Perpetually Imitated and Perpetually Inimitable;* F. W. Shipley, *The Universality of Horace;* L. E. Lord, *Horace as an Occasional Poet;* T. Frank, *Horace's Definition of Poetry;* Cornelia Coulter, *Aeolian Strains on the Roman Lyre;* Margaret Kenny, *The Critic Looks at Horace;* G. L. Hendrickson, *Vox Vatis Horati,* (vol. 31, December). F. C. Capozzi treats of Horace's homeland, Apulia, in *C.J.* (30,225ff.), J. Elmore writes on "A New Dating of Horace's *De Arte Poetica*" in *C.P.* (30,1ff.), assigning it to 28-27 B.C. N. W. DeWitt considers "Parresiastic Poems of Horace" (*ib.* 312 ff.). "Some American Estimates of Horace" is the title of a paper by J. P. Pritchard in *C.W.* (28, 97 ff.). Brief contributions are: "Illustrated Editions of Horace" by Anna Brinton in *P.A.P.A.* (65, xxx); "Horace's Vacuna" by Elizabeth C. Evans (*ib.* xxxi); "Horace in These Days—and Others" by Mary Johnstone, *C.W.* (29, 6).

Vergil.—The relative poverty of the output on Horace contrasts with the tribute paid to Vergil in the monumental edition of A. S. Pease: *Publi Vergili Maronis Aeneidos Liber Quartus,* Cambridge, Mass., 1935, with elaborate introduction, a critical text—this a thin ribbon at the top of very solid pages, when even that does not have to yield space to the learned comment ranging over a vast field. Another new edition is Frederic J. de Veau's *The "Bucolics" of Vergil,* Oxford and New York, 1935. Louise A. Holland treats "Place Names and Heroes in the *Aeneid*" in *A.J.P.* (56, 202 ff.); G. B. Beach, "Vergil, the Lord of Language" in *C.W.* (28, 186 ff.). R. Mandra publishes *The Time Element in the Aeneid of Vergil,* a Columbia thesis (Williamsport, 1934). T. Frank in *A.J.P.* (56, 254 ff.) explains *tau Gallicum* in *Catalepton* 2, 4. L. R. Lind in *C.P.* (30, 76 ff.) argues against the belief that Vergil had had military experience. T. Frank in *C.J.* (30, 463 ff.), "Comments on Vergil's *Aeneid,*" deals with the more favorable verdict on the editorial labors of Tucca and Varius; Bentley's prosaic emendations; the archaic form *pelligerent* (6, 24); and the caves of the Aventine (8, 190 ff.). A. L. Bondurant has a note on *Aeneid* 1, 389, in *P.A.P.A.* (65, xxxiii f.); T. W. Valentine, notes on *Aeneid* 6, 724-751, 607-675 in *C.W.* (29, 1 ff.); Brother Albertus Mahoney, a book on *Vergil in the Works of Prudentius* (Washington, 1934).

Lucretius and Plautus.—*Lucretius and His Influence* is a new volume by G. D. Hadzsits, New York, 1935, in the Our Debt Series. H. S. Lipscomb writes in *C.J.* (31, 77 ff.) on "Lucretius and the *Testament of Beauty;*" J. N. Hough, on "The Development of Plautus' Art" in *C.P.* (30, 43 ff.). J. H. Drake Sr. (*ib.* 72 ff.) defends his interpretation of *hoc age* in Plautus, *Captivi* 444. L. B. Mitchell has published a stage edition of the (translated) *Mostellaria* of Plautus, arranged for production (Albuquerque, 1935).

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* Periodicals are abbreviated as follows: *A.J.P., American Journal of Philology; C.J.,* *Classical Journal; C.P., Classical Philology; C.W., Classical Weekly; H.S.C.P., Harvard Studies in Classical Philology; Spec., Speculum; T.A.P.A., Transactions of the American Philological Association; P.A.P.A., Proceedings* of the same. Titles of books, monographs and periodicals are italicized. Those of periodical articles and addresses are in quotation marks.

Other Latin Writers.—W. C. Korfmacher considers Lucilius' informal mingling of Greek words with Latin, "Grecizing in Lucilian Satire," in *C.J.* (30, 453 ff.). H. Comfort discusses parody in Catullus 58a in *A.J.P.* (56, 45 ff.); and in *C.P.* (30, 74 ff.) weighs the evidence for the date of Catullus 53. F. L. Jones examines Martial's life as a client in *C.J.* (30, 355 ff.). *A Study of the Scipionic Circle,* is the University of Iowa dissertation of Ruth M. Brown (Scottdale, Pa., 1934). H. J. Leon treats of "The Technique of Emotional Appeal in Cicero's Judicial Speeches" in *C.W.* (29, 33 ff.) C. W. Keyes in *A.J.P.* (56, 42 ff.) in an article entitled "The Greek Letter of Introduction" briefly considers the conventional expressions in Cicero's Letters as showing acquaintance with Greek handbooks for the letter-writer. H. Bennett in *C.J.* (30, 193 ff.) writes entertainingly on Cicero's wit. G. McCracken (*ib.* 261 ff.) weighs the seven different views held in regard to the supposed site of Cicero's Tusculan villa. F. P. Donnelly publishes *Cicero's Milo, A Rhetorical Commentary* (New York, 1934). C. W. Mendell, writing in *A.J.P.* (56, 113 ff.) on the "Discovery of the Minor Works of Tacitus," holds that two Mss. came to Italy from Germany and that the Aesinus leaves do not belong to the one brought by Enoch of Ascoli. W. H. Alexander has published *Notes and Emendations to the XII Dialogues of L. Annaeus Seneca* (Edmonton, Alberta, 1934) besides a note on *De Vita Beata* in *C.W.* (28, 111 f.) and on the *Apocolocyntosis* in *C.P.* (30, 350 ff.). C. W. Mendell in *Yale Classical Studies* thoroughly treats of "Dramatic Construction of Tacitus' *Annals.*" An *Index Apuleianus* by W. A. Oldfather, H. V. Canter, and B. E. Perry, appeared as an American Philological Association Monograph (Middletown, 1934). Notes by the late H. C. Nutting are numerous: on Cicero, *Tusc. Disp.* 1, 94 in *C.W.* (28, 182); on Suetonius, *Galba* 15, 2 (*ib.*); on Martial 8, 74 (*ib.* 183); on Tacitus, *Hist.* 2, 42 (*ib.* 183 f.); *ibid.* 1, 44 (*ib.* 29, 29 f.); *ib.* 1, 21 (*ib.* 30 f.); Cicero, *Tusc. Disp.* 2, 37 f. (*ib.* 31 f.); on Caesar, *B.C.* 3, 82 and 2, 36 (*ib.* 32); also in *C.W.* (29, 45 ff.) notes on *Tusc. Disp.* 2, 39; Tacitus, *Hist.* 1, 33 (a silver Latin meaning of the future active participle); Caesar, *B.C.* 3, 41 and *B.G.* 5, 25. Miscellaneous notes are these: G. A. Harrer in *C.J.* (30, 491 ff.) on Eutropius 7, 19, 1 and Suetonius, *Vespasian* 4, 1; C. Murley (*ib.* 428 f.) on Terence, *Phormio* 231-234 and Livy 1, 28, 4-6; J. M. Rife (*ib.* 429 ff.) on Caesar's *alces* of the Hercynian Forest (6, 27); J. W. Spaeth Jr. on the werewolf in Petronius, in *C.W.* (28, 125 f.); C. Knapp (*ib.* 89 ff.), illustrating the *Cena* from a story in the Saturday Evening Post; G. B. A. Fletcher on Lucan 4, 787 (*ib.* 184); Gertrude H. Hirst on Juvenal 3, 201 f. (*ib.* 29, 39 f.); E. T. Sage, "An Unidentified Contributor to Petronian Criticism" in *P.A.P.A.* (65, xxxii f.) G. E. Duckworth "The Unnamed Characters in the Plays of Plautus (*ib.* xxxv f.); F. Granger, replying to a criticism of his Vitruvius, in *C.P.* (30, 337 ff.).

MANUSCRIPTS AND TEXT-CRITICISM

E. A. Lowe issues part 1 of *Codices Latini Antiquiores, A Palaeographical Guide to Latin Mss. Prior to the Ninth Century,"* Oxford, 1934, a very valuable collection for the palaeographer. In *A.J.P.* (56, 14 ff.) A. Diller writes on classical Mss. in Italy in the XVIth century, from the *Index Librorum* of Tettius. In *C.P.* (30, 247, ff.) W. H. P. Hatch explains the origin of the term "uncial" as meaning a letter which occupied about one-twelfth of a line. F. M. Wheelock, in treating "The Manuscript Tradition of Probus" in *H.S.C.P.* (46, 85 ff.), seeks incidentally further light on the question of Vergil's birthplace, as probably three miles rather than 30 from

Mantua. In *C.P.* (30, 342-347) "The Manuscript Problem of Vitruvius" is stated by C. H. Beeson. *The Manuscripts of Propertius* is a Chicago dissertation by Alice C. Ferguson, 1934. Dorothy M. Schullian in *T.A.P.A.* (65, 35 ff.) shows the value for the text-criticism of Valerius Maximus of an eleventh century poetic version by Tortarius. B. L. Ullman writes on the Codex Maffeianus of Cicero's *Philippics* in *C.P.* (30, 161 ff.). J. J. H. Savage continues his Servian studies in *H.S.C.P.* (45, 157 ff.), "The Manuscripts of Servius's Commentary on Virgil." W. H. Alexander prints critical notes on Seneca's *Dialogues* (7-12) in *A.J.P.* (56, 216 ff.). In *C.P.* (30, 255 ff.) Gladys Martin discusses "Transposition of Verses in the *Pervigilium Veneris.*" A paper on "Two Salzburg Manuscripts and the Influence of Tours" by L. W. Jones appears in *Spec.* (10, 288 ff.). Dorothy K. Coveney (*ib.* 41 ff.) has notes on a seventh century uncial fragment (unpublished; parts of St. Mark) at University College, London.

LITERARY CRITICISM

In "Spirit and Plan of the *Pervigilium Veneris,*" in *T.A.P.A.* (65, 1 ff.), E. K. Rand further develops arguments offered in his previous paper in *Revue des Études latines* to show an orderly sequence of thought, while admitting certain transpositions in the text. C. W. Mendell in *C.P.* (30, 289 ff.) considers "Catullan Echoes in the *Odes* of Horace." C. T. Harrison in *H.S.C.P.* (45, 1 ff.) writes on "The Ancient Atomists and English Literature of the Seventeenth Century." In *C.W.* (28, 161 ff.) P. W. Harsh has a paper applying dramatic technique to the appreciation of Terence's originality. "Ovid and Allegory" is the theme of L. K. Born in *Spec.* (9, 362 ff.). Elizabeth C. Evans writes on "Roman Descriptions of Personal Appearance in History and Biography" in *H.S.C.P.* (46, 43 ff.); Gladys Martin on "Claudian and the *Pervigilium Veneris*" in *C.J.* (30, 531 ff.); T. W. Dickson on "Unwritten and Lost Epics of the Augustan Poets" (*ib.* 278 ff.); M. Dittman on the "Development of Historiography among the Romans" (*ib.* 287 ff.); G. E. Duckworth on "The Structure of the *Miles Gloriosus*" in *C.P.* (30, 228 ff.); J. P. Pritchard on "Hawthorne's Debt to Classical Literary Criticism" in *C.W.* (29, 41 ff.); W. C. Korfmacher on "Philosophical Aspects of Early Roman Tragedy" in *P.A.P.A.* (65, li f.). *A Study of the Scipionic Circle* is an Iowa dissertation by Ruth M. Brown, Jackson, Ill. 1934. "Dramatic Construction of Tacitus' *Annals*" is the title of a paper by C. W. Mendell in Yale Classical Studies (5, 3 ff).

HISTORY AND BIOGRAPHY

A very important contribution to our resources for classical study is W. L. Westerman's "Sklaverei," in Pauly-Wissowa-Kroll, (Suppbd. 6, 894-1068). F. B. Marsh publishes *A History of the Roman World from 146 to 30 B.C.* London, 1935. T. Frank in *A.J.P.* (56, 61 ff.) writes "On the Migration of Romans to Sicily." In *T.A.P.A.* (65, 207 ff.). T. R. S. Broughton ("Roman Landholding in Asia Minor") rejects the current explanation of imperial estates as Hellenistic crown lands or temple properties. Provincial edicts, in part that of Tiberius Alexander, prefect of Egypt, dealing exclusively with taxation, are discussed by O. W. Reinmuth (*ib.* 271 ff.). W. E. Gwatkin (*ib.* 271 ff.) would make the Metellus of Cic. *Cat.* 1.19, not the Marcus of our editions, but Q. Metellus Nepos. E. F. D'Arms in *A.J.P.* (56, 232 ff.) deals with the Lex Thoria, its nature and its date. Grace H. Macurdy in "Julia Berenice" (*ib.* 246 ff.) shows the important position of Berenice as sharing her brother's power, and holds the charge of incest as hardly substantiated.

W. Avery in *C.P.* (30, 170 ff.) studies the chronology of an occurrence at Baiae in the life of Augustus' daughter Julia. Brief contributions are: C. C. Greene, "Cicero's Political Ideal," in *P.A.P.A.* (65, xxxi); A. F. Sochatoff on the legal basis of Appius Claudius' proconsulship of Cilicia (*ib.* xliv f.); L. E. Lord (*ib.* xlvi) "The Date of Caesar's Departure from Egypt." R. S. Rogers, "The Delatores under Tiberius" (*ib.* lii f.); E. T. Sage and Adalaide Wegner, a note on the triumph of Purpureo (200 B.C.) (*ib.* xlix f.); T. R. S. Broughton in *C.J.* (31, 43 f.) on Colonia Caesareia Antiocheia. Ethel H. Brewster writes "In Roman Egypt," *C.W.* (29, 25 ff.). E. T. Salmon in *C.P.* (30, 23 ff.) treats "Rome's Battles with Etruscans and Gauls in 284-282 B.C."; A. E. Pappano (*ib.* 58 ff.) "The Pseudo-Marius." J. A. O. Larsen (*ib.* 193 ff.) asks "Was Greece Free between 196 and 146 B.C.?" adding an appendix on Roman treaties with Greek states. In *C.J.* (30, 385 ff.) B. L. Ullman discusses "Cicero and Modern Politics." R. S. Rogers, K. Scott, and Margaret M. Ward have published *Augustus Caesar, Res Gestae et Fragmenta,* Boston, 1935. M. Hammond treats "Corbulo and Nero's Eastern Policy," in *H.S.C.P.* (45, 81 ff.).

In *Yale Classical Studies* (4, 59 ff.) P. W. Townsend reviews the administration of Gordian III. W. H. Buckler has a paper "Auguste, Zeus Patroos," in *Revue de Philologie* (9, 177 ff.). C. F. Edson, "Perseus and Demetrius," in *H.S.C.P.* (46, 191ff.), attributes the execution of the latter to Roman interference in the affairs of Macedonia. K. Scott considers "The Political Propaganda of 44-30 B.C." in *Memoirs of the American Academy in Rome* (11, 7 ff.). A. M. Harmon in "Egyptian Property Returns," in *Yale Classical Studies* (4, 135 ff.), deals with documents of the time of Antoninus Pius and treats of the dictation and drafting of such papers.

ROMAN LIFE

E. S. McCartney in *C.P.* (30, 97 ff.) treats of superstitions about meeting birds, animals, etc., under the title "Wayfaring Signs," with special reference to Hor. *Carm.* 3, 27. Adeline B. Hawes publishes *Citizens of Long Ago: Essays on Life and Letters in the Roman Empire,* New York, 1934; N. Lewis, *L'Industrie du papyrus dans l'Egypte greco-romaine,* Paris, 1934. In *C.J.* (30, 17 ff.) M. Hadas questions the preponderance of *gravitas* in the Roman character ("Gravitas Quousque"). H. Mattingly and E. S. G. Robinson in *A.J.P.* (56, 225 ff.) study the meaning of *nummus* in Plautus and early Latin, understanding it to mean the didrachm. Brief contributions are: C. Knapp, "Boar Hunting Ancient and Modern," *C.W.* (28, 81 ff.); M. Reinhold, "A Note on Legislation concerning Roman Crematories" (*ib.* 91 ff.) and "The Imperial commentarii aquarum," (*ib.* 92 f.); H. B. Ash, "Supplementary Fodder for Cattle, Ancient and Modern," (*ib.* 103 f.); Mary Johnston, "The Steer Aids in Farm Relief," (*ib.* 29, 22 f.); L. R. Lind, "An Ancient Dred Scott Case" (*ib.* 5 f.); C. Knapp, "A Note on Travel in Ancient Times" (*ib.* 28, 177 f.); E. L. V. Crum, "*Malagmata* in Celsus," *P.A.P.A.* (65, xlvi f.); R. H. Crum, "More Strange Islands," *C.W.* (28, 179 f.).

PHILOSOPHY AND RELIGION

C. M. Hall in *C.W.* (28, 113 ff.) deals with "Some Epicureans at Rome;" A. M. Young (*ib.* 115 ff.) with "The Stoic Creed on the Origin of Kingship and of Laws." M. P. Charlesworth has "Some Observations on Ruler-Cult, Especially in Rome" in *Harvard Theological Review* (27, 5 ff.). K. Scott in *P.A.P.A.* (65, xliv) remarks on the association of rulers and private persons with Hermes or Mercury. Lily R. Taylor, writing on "The *Sellisternium* and the Theatrical *Pompa*" in *C.P.* (30, 122 ff.), distinguishes *sellisternia* which had to do with theatrical games from those practised in ceremonies of expiation. The subject is further illustrated (*ib.* 131 ff.) by Aline L. Abaecherli's "Imperial Symbols on Certain Flavian Coins," with plate of coins. In *C.P.* (30, 32 ff.) E. E. Burriss treats "The Place of the Dog in Superstition, as Revealed in Latin Literature." S. L. Mohler (*ib.* 167 ff.) takes up "The Bithynians Again," confirming Kraemer's interpretation of Pliny 10, 96, 7.

EPIGRAPHY

C. C. Mierow in *T.A.P.A.* (65, 163 ff.) interprets the formula *Hoc monumentum heredem non sequitur* as applying to the right of interment in the tomb plot,—a right which the heir is not to claim. M. S. Ginsburg (*ib.* 198 ff.) discusses the meaning of *princeps libertinorum* in an inscription at Pompeii, arguing that the citizen in question was the patron of a *collegium* of freedmen. A. E. Gordon in *P.A.P.A.* (65, xlii f.) touches briefly "On Marble as a Criterion for Dating Republican Latin Inscriptions."

MEDIAEVAL AND LATE LATIN

E. K. Rand and L. W. Jones continue their studies in the script of Tours in *The Earliest Book of Tours: With Supplementary Descriptions of Other Manuscripts of Tours* (Cambridge, Mass., 1934). L. W. Jones discusses "The Text of the Bible and the Script of Tours," in *Harvard Theological Review* (28, 135 ff.): E. K. Rand, "The Supposed Commentary of John the Scot on the *Opuscula Sacra* of Boethius" in *Revue Néoscolastique de Philologie* (60, 243 ff.). In *T.A.P.A.* (65, 70 ff.) M. B. Ogle's "A Mediaeval Tale of a Gallus" has to do with a poetical epistle (ca. 1100) by Tortarius, monk of Fleury. H. Caplan publishes *Mediaeval "Artes Praedicandi:" A Hand-List* (Ithaca, 1934); M. B. Ogle and Miss Dorothy M. Schullian, *Rodolfi Tortarii Carmina, Papers and Monographs of the American Academy in Rome*, vol. 8 (Rome 1933). In *Memoirs* of the same (12, 156) Miss Schullian has a study of Heiric of Auxerre's excerpts from Valerius Maximus. C. W. Jones in *Spec.* (9, 50 ff.) treats of Polemius Silvius, Bede, and the Names of the Months; K. Guinagh (*ib.* 91 ff.), of "An Unpublished Mss. of Rogerius Anglicus;" J. S. P. Tatlock (*ib.* 135 ff.), of "Geoffrey of Monmouth and the Date of *Regnum Scotorum*," S. H. Thomson (*ib.* 139 ff.), of "Grosseteste's Topical Concordance of the Bible and the Fathers"; L. Thorndike (*ib.* 183 ff.), of "A Mediaeval Sauce-Book." Ethel D. Roberts has "Notes on Early Christian Libraries in Rome" (*ib.* 190 ff.); J. J. H. Savage, "Mediaeval Notes on the Sixth *Aeneid* in Parisinus 7930" (*ib.* 204 ff.); G. R. Coffman, "Old Age from Horace to Chaucer" (*ib.* 249 ff.) J. Hammer publishes a partial commentary (early XIVth century) on the *Prophetia Merlini* (Geoffrey of Monmouth, book 7) in *Spec.* (10, 3 ff.). H. R. Patch (*ib.* 393 f.) comments on "Necessity in Boethius and the Neoplatonists;" Brother Giles in *P.A.P.A.* (65, xxxvii f.), on "Mediaeval Translations of Aristotle's Art of Rhetoric."

GRAMMAR AND METRE

B. L. Ullman in *A.J.P.* (56, 147 ff.) reports on "Two Latin *Abecedaria* from Egypt" (IVth or Vth century papyrus). R. S. Conway (the late), J. Whatmough, and S. E. Johnson publish *The Prae-Italic Dialects of Italy*, Cambridge, Mass., 1933. L. H. Gray writes "Sur l'Origine du gérondif italique" in *Bulletin de la Société de Linguistique de Paris*, (35, 76 ff.). A Catholic University dissertation is that of B. H. Skahill, *The Syntax of the Variae of Cassiodorus*, Washington, 1934. N. J. Twombly treats "Synonymie et versification" in *Revue des Études Latines*, 13 (78 ff.). In *C.W.* (28, 201 ff.) W. B. Gardner considers "The Influence of Metaphor upon Semasiology." E. T. Salmon (*ib.* 752) remarks on *hic* and *ille;* and F. R. Blake on the possible extension of syntax in *P.A.P.A.* 65, l.

MISCELLANEOUS

An anthology of prose and verse in two volumes, *A Survey of Classical Roman Literature* by D. P. Lockwood has appeared, New York, 1934. "Slang, Latin vs. American" is treated in *C.J.* (31, 35 ff.) by Kathryn S. Bennett, as is "Catiline on the Stage" by J. Stinchcomb in *C.W.* (28, 49 ff.), and familiar sayings, (*ib.* 29, 1) by C. Knapp and (*ib.* 3) D. B. Kaufman. Classical articles appearing in non-classical periodicals are listed by A. J. Pauli in *C.W.* (28, 54 ff., 119 f., 126 ff.; 29, 7 f., 16, 48); by J. W. Spaeth Jr. (*ib.* 28, 72, 128, 143 f; 29, 23 f., 47 f.); and by R. P. Eldridge (*ib.* 28, 192, 199 f.).

XXV. LITERATURE AND LANGUAGE

GREEK LITERATURE

BY ROBERT CHISOLM HORN

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ART AND ARCHAEOLOGY

Among recent important publications these are noteworthy: *The Excavations at Dura-Europos*, Preliminary Report of the Fifth Season of Work, ed. by M. I. Rostovtzeff (Yale Univ. Press, 1934); *Antioch on the Orontes*, Vol. I, The Excavations of 1932, by G. W. Elderkin (Princeton Univ. Press, 1934), and *Corpus Vasorum Antiquorum*, The University of California Collection, H. R. W. Smith (Harvard Univ. Press, 1935). *The Progress of Archaeology*, by S. Casson (McGraw-Hill Book Co., New York, 1934) is useful and interesting, but too brief.

EDITIONS AND TRANSLATIONS

Pindari Carmina, by C. M. Bowra, in the Oxford Classical Texts, is most welcome (Oxford Univ. Press, 1935). A work of painstaking scholarship and valuable detail is *Novum Testamentum Graece Secundum Textum Westcotto-Hortianum Euangelium Secundum Marcum*, ed. by S. C. E. Legg (Oxford, Clarendon Press, 1935). This is the first instalment of a work which will cover the whole New Testament. The *Apparatus Criticus* is most complete, and is brought up to date. *Actors' Interpolations in Greek Tragedy*, by D. L. Page, is concerned particularly with Euripides' *Iphigenia in Aulis* (Oxford Univ. Press, 1934).

The demand for translations of classical authors continues and is being satisfied by admirable translators. Worthy of note are: *The Iliad of Homer*, trans. by Sir William Marris (Oxford Univ. Press, 1934), a readable version in blank verse; *Aeschylus, The Seven against Thebes*, translated into English rhyming verse with introduction and notes, by Gilbert Murray (Oxford Univ. Press, 1935); and *Five Plays of Euripides*, translated into English rhyming verse, with explanatory notes, by Gilbert Murray (Oxford Univ. Press, 1934). *Plato's Theory of Knowledge*, the Theaetetus and the Sophist of Plato, translated with a running commentary, by F. M. Cornford (Harcourt Brace and Co., 1935) is a volume in the International Library of Psychology, Philosophy, and Scientific Method. Arthur S. Way has been particularly active: *Homeric Hymns with Hero and Leander in English Verse* (1934); *Thucydides, Speeches and Funeral Orations* (1934); *Callimachus, The Hymns, with the Hymn of Cleanthes* (1935); *Hesiod in English Verse* (1935); and *Aristophanes in English Verse*, Vol. II (1935); all are published by Macmillan and Co., London.

LANGUAGE AND LITERATURE

Medical Greek and Latin at a Glance, by W. Agard (Edwards Brothers, Ann Arbor, Mich., 1935) is a convenient multigraphed book for medical and pre-medical students, doctors, and teachers. *Elements of New Testament Greek*, by H. P. V. Nunn, appears in its sixth edition (Macmillan Co., 1934). Part 8 of the new edition of *Liddell and Scott's Greek English Lexicon* appeared in 1934 (Oxford Univ. Press). There are two new and excellent histories of literature: *A Handbook of Greek Literature*, by H. J. Rose (E. P. Dutton, 1935), a thorough and exhaustive treatment of the subject to the time of Lucian; and *A History of Classical Greek Literature*, from Homer to Aristotle, by T. A. Sinclair (The Macm. Co., 1935), somewhat more popular in tone. Valuable works of criticism are: *Literary Criticism in Antiquity*, Vol. I, Greek, Vol. II, Graeco-Roman, by J. W. H. Atkins (The Macm. Co., 1935); and *Aristotle's Criticism of Presocratic Philosophy*, by H. Cherniss (Johns Hopkins Press, 1935). *Early Philosophers of Greece*, by M. T. McClure (D. Appleton-Century Co., 1935) is a volume in the Century Philosophy Series. Among important classical works published in convenient and moderately priced form for the general reader are: *Aristotle's Poetics, Demetrius on Style, and Selections from Aristotle's Rhetoric, Together with Hobbe's Digest and Horace's Ars Poetica,* translated from the Greek and Latin, ed. by T. A. Moxon, in Everyman's Library (E. P. Dutton, 1934); and *The Thoughts of the Emperor M. Aurelius Antoninus,* translated by George Long, a volume of the Pocket Classics (David Mackay Co., Phila.). *A Greek Papyrus Reader with Vocabulary,* by E. J. Goodspeed and E. C. Colwell, (Planograph) will be useful to those who are studying the Greek of the New Testament (Univ. of Chicago Press, 1935).

HISTORY AND CIVILIZATION

Among interesting special studies are: *The Mercenaries of the Hellenistic World,* by G. Griffith (The Macm. Co., 1935); *Alexander the Great,* by F. A. Wright (George Routledge and Sons, 1934); and *Oriental Origin of Hellenistic Kingship,* by C. W. McEwan (Univ. of Chicago Press, 1934). Those interested in the fascinating Cleopatra and her family will find interest in *Gaston Delayen's Cleopatra,* translated from the French by F. Symons (E. P. Dutton, 1934), and *Cleopatra's Daughter,* the Queen of Mauretania, by Beatrice Chanler (Liveright, 1934). *Greek Ideals and Modern Life,* by Sir R. W. Livingstone, is promised soon by the Harvard University Press. This volume is one of the series of Martin Classical Lectures at Oberlin College. Welcome are revised editions of these admirable books: *Ancient Times,* by J. H. Breasted (Ginn and Co., 1935); and *History of Ancient Geography,* by H. F. Tozer, with Additional Notes by M. Cary (Cambridge Univ. Press, 1935). A contribution in the field of papyrology is *Accounting in the Zenon Papyri,* by Elizabeth Grier (Columbia Univ. Press, 1934). The Macmillan Company announces a new series entitled Cambridge Classical Studies. The first two volumes in this series, to be published this fall, are: *Zeno of Elea,* by H. D. P. Lee; and *Mode in Ancient Greek Music,* by R. P. Winnington-Ingram. *Within the Walls,* by Agnes C. Vaughan, is a charming story of Andromache and Troy, by a professor of Greek (The Macm. Co., 1935).

LOEB CLASSICAL LIBRARY

These volumes were published in the course of the year, by the Harvard University Press: *Plato, Republic,* Vol. 88, by P. Shorey; *Aristotle, Athenian Constitution, Eudemian Ethics, Vices and Virtues,* by H. Rackham; *Aristotle, Metaphysics, Books X-XIV, Oeconomica, and Magna Moralia,* by H. Tredennick and G. C. Armstrong; *Aristotle, On the Soul, Parva Naturalia, On Breath,* by W. S. Hett; *Aristotle, Minor Works,* Vol. I, by W. S. Hett; *Procopius, History of the Wars,* Vol. VI, by B. H. Dewing; *Philo,* Vol. VI, by F. H. Colson; *Sextus Empiricus,* Vols. II and III, by R. G. Bury; *Pausanias,* Vols. IV and V (Vol. IV by W. H. S. Jones, completing his translation; and Vol. V compiled by R. E. Wycherley, containing maps, plans, illustrations, and descriptive matter); *Demosthenes, Meidias, Androtion, Aristocrates, Timocrates, Aristogeiton,* by J. H. Vince; *Lucian,* Vol. V, by A. M. Harmon; *Diodorus Siculus,* Vol. II, by C. H. Oldfather; and *Plutarch, Moralia,* Vols. IV and V, by F. C. Babbitt.

SEMITIC LANGUAGES AND LITERATURES

BY E. A. SPEISER

PROFESSOR, UNIVERSITY OF PENNSYLVANIA

GENERAL

The year 1935 was no less notable for the number of major publications in the field of Near Eastern Studies, contributed by American scholars and sponsored by American scientific institutions, than was the preceding year. Both archaeology and philology were well represented in the current scientific output. The one has to its credit a study of an important prehistoric center in Mesopotamia and the exploration of ancient Moab, while the other took cognizance of the invaluable epigraphic material dug up in the North Syrian site of Ras Shamra, in addition to furnishing important works in the Assyriological and Hittite fields. Research in other specialized departments was reflected in numerous publications of more than ordinary interest.

CENTERS OF ORIENTAL PUBLICATIONS

The American Oriental Society (AOS), the American Schools of Oriental Research (ASOR), the Oriental Institute of the University of Chicago (Or. Inst.), and the University of Michigan have continued their sponsorship of major works, as will be seen from the selected bibliography given below. Among the periodical publications we may list the *Annual* and the *Bulletin* of the ASOR, the *Jewish Quarterly Review*, and the *Journals* of the AOS and of the Society of Biblical Literature and Exegesis.

ARCHAEOLOGICAL AND HISTORICAL PUBLICATIONS

Mesopotamia.—The results of the first three campaigns at Tepe Gawra are presented by E. A. Speiser in a volume entitled *Excavations at Tepe Gawra, I* (ASOR). This mound, situated a few miles north of Mosul, within sight of Khorsabad, was unknown to archaeologists as recently as 1927. In so short a time it has become one of the most frequently cited centers of the ancient East. The present work furnishes the necessary data for the study of the Gawra remains. Another group of remains in Northern Mesopotamia is described in *Sennacherib's Aqueduct at Jerwan* (OR. Inst.), by T. Jacobsen and S. Lloyd. Both volumes are amply illustrated. Babylonia is represented by two works from the pen of R. H. McDowell: *Coins from Seleucia on the Tigris*, and *Inscribed Objects from Seleucia on the Tigris* (Michigan).

Syria.—Numismatic material from Dura-Europos is ably discussed by A. Bellinger in his monograph on *The Sixth, Seventh, and Tenth Dura Hoards* (American Numismatic Society).

Palestine.—W. F. Albright's *Archaeology of Palestine and the Bible* (New York) has reached the third edition. *The Megiddo Water System* is investigated by R. S. Lamon (Or. Inst.). J. Morgenstern adds to his previous discussions on the subject of the calendar a welcome elaboration of his views in *Supplementary Studies in the Calendars of Ancient Israel* (*Annual* of the Hebrew Union College).

Transjordan.—Nelson Glueck follows up his researches in Moab with an excellent study of Edom. The monograph entitled *Explorations in Eastern Palestine, II*, occupies the entire *Annual* of the ASOR and presents archaeological, topographical, and historical material of outstanding significance.

PHILOLOGICAL STUDIES

Assyriology.—Much activity has been shown in the publication and interpretation of cuneiform records. The oldest material is presented by T. Meek in his *Old Akkadian, Sumerian, and Cappadocian Texts from Nuzi* (Harvard Semitic Series and ASOR). Ancient Nuzi is notable chiefly for the thousands of records left by the Hurrians, an Asiatic group which spread early in the second millennium B.C. throughout the Near East, thus serving as a cultural link between the Aegean and Anatolia on the one hand, and Mesopotamia, Syria, Palestine, and Egypt on the other. Meek's texts add an important chapter to the prehistory of Nuzi. In the third millennium, to which his 230 autographed documents are shown to date back, the site had not been occupied as yet by the Hurrians, but was in the hands of a mixed population which employed Old Akkadian as their official language. R. S. Pfeiffer furnishes a representative study of *The State Letters of Assyria*, in transliteration and translation (AOS, vol. 6). These letters disclose an illuminating cross-section of Assyrian public life, having been written by generals and governors, priests and astronomers, architects and boat builders, spies and tax-collectors, beggars and kings; they are certain to be read with interest by scholars and laymen alike. *Neo-Babylonian Business and Administrative Documents* (Michigan), by E. W. Moore take care of the southern area and furnish additional material for the study of the social and economic conditions of first-millennium Babylonia.

Canaanite Studies.—The outstanding event in this field is the publication of *The Hebraic Mythological Tablets from Ras Shamra* (American Philosophical Society), by J. A. Montgomery and Z. S. Harris. The recent discovery of a series of texts in a language closely resembling the oldest Biblical Hebrew, and inscribed in a hitherto unknown cuneiform alphabetic script, has fairly revolutionized our view on Syria and Palestine in the third quarter of the second millennium B.C. The bearing of these records on the early history of the alphabet, on West Semitic mythology, and on the history of the Canaanite dialects, cannot be overestimated. The authors, to whom we are indebted for a number of preliminary studies published in the *Journal* of the AOS, now present the available mythological texts in Hebrew transliteration, accompanied by a remarkably extensive glossary, a sketch of the grammar of the new dialect, and an excellent synopsis of the poems. The complete bibliography on Ras Shamra, unusually rich for a subject barely six years old, will be particularly appreciated by students.

Hittite Studies.—E. H. Sturtevant and G. A. Bechtel contribute *A Hittite Chrestomathy* (Linguistic Society of America), a companion volume to Sturtevant's *Comparative Grammar of the Hittite Language.* The work contains autographed cuneiform texts in the Hittite language, judiciously selected to serve the needs of the beginner and accompanied by transliterations and philological notes. The introductory portion on cuneiform writing, followed by a complete list of signs, may be recommended to all who wish to study cuneiform texts, regardless of the particular language in which the records happen to be composed.

LIBRARIES

By Mildred Othmer Peterson

American Library Association

GOVERNMENT AID

The year 1935 will be particularly remembered for the definite progress accomplished toward obtaining state aid for public libraries in connection with the broad program of universal library service with Government aid. Illinois and Ohio during their legislative sessions recognized that the state as well as the local community has a definite part in building up an intelligent citizenship through library facilities. Both states made emergency grants for books to supplement the budgets of local public libraries which were drastically reduced during the last four years—Ohio granted $100,000 and Illinois, $600,000 (see "Libraries," The American Year Book, 1934). Illinois thus assumed leadership throughout the United States in the amount of state aid provided for public library service to its citizens. At least 12 state library agencies have had their appropriations increased—in one case nearly 250 per cent—giving encouraging evidence that libraries are beginning to share in the economic upturn. Similar grants are greatly needed in other states if the reading needs of 45,000,000 people in the United States who now lack library service are to be met. More than 80 per cent of the rural population are without library service, compared with 12 per cent of the urban population. Forty-five states and the District of Columbia are now known to have concerned themselves with state library planning.

A Federal library agency is advocated by Commissioner Studebaker of the U. S. Office of Education, to give national leadership to library extension and development. The American Library Association strongly indorses this proposal, which it has incorporated in a national plan for library development on which it is now at work. Other features of the plan include regional library systems which will serve people in one or more counties from a natural trading area, better coordination of resources for the scholar and research student, and better service to children and young people in and out of school.

Libraries have continued to receive assistance in the form of labor from relief workers and funds for buildings and improvements. A new high figure in library relief projects is a Works Progress Administration grant of $2,500,000 to the New York Public Library; another is for $1,800,000 to the Boston Public Library. A study of Public Works Administration allotments shows that $685,787 has been granted for 13 new public library buildings. PWA grants have also been received by many colleges for library buildings.

LEGISLATION

Legal provision for large unit library service was made in Washington and Georgia by 1935 legislatures. Washington enacted a complete new library law permitting the establishment of county and regional as well as municipal libraries. Georgia passed a permissive county library law with provision for contracts between adjacent counties for joint service. There are now only two states (outside New England where the county is not an important governmental unit), Idaho and North Dakota, which lack such legislation. South Carolina strengthened its library law by giving authority to the State Library Board to create large library districts.

SERVICE OF ESTABLISHED LIBRARIES

According to reports received by the A.L.A. in 1926, there were 5,954 free public libraries in the U.S. with 65,561,796 volumes and a circulation of 226,142,926 volumes. A revision of these figures shows 6,235 free public libraries in 1934 with 100,470,215 volumes and a circulation of 449,998,845 volumes. The circulation in 1934 was 3.67 volumes per capita whereas in 1926 it was but 2.13. Even with this increase in use and number of libraries, 36.7 per cent of the total population of the U.S. is without free public library service.

FOREIGN CONFERENCES

American librarians were represented at the following foreign conferences during the year: Second International Congress of Libraries and Bibliography, Madrid, Spain, May 20-29; British Library Association, Manchester, Sept. 9-13; World Congress of the Agricultural Press, Brussels, July 26-27; International Institute of Documentation, Copenhagen, Sept. 9-14; and World Federation of Education Associations, Oxford, Aug. 10-17.

CARNEGIE AND CHILDREN'S LIBRARY CENTENNIALS

Celebrations of the hundredth anniversary of the birth of Andrew Carnegie, the renowned benefactor of libraries, were observed throughout the U.S., Canada, and the British Dominions for the purpose of emphasizing the enormous strides made in library progress during the past century.

Another event celebrated by libraries this year was the one hundredth anniversary of the founding of the first free children's library in West Cambridge, now Arlington, Massachusetts.

GIFTS TO LIBRARIES

Individual and organization gifts and bequests to libraries were numerous. Among the larger gifts were a collection of rare books and manuscripts valued at $500,000 to the Lockwood Library of Buffalo University by Thomas B. Lockwood; the estate of Dr. Elizabeth B. Cassidy, $60,000—$100,000 to Knox College Library; $50,000 to Michigan State College for books and periodicals on chemical subjects by Dr. Frank S. Kedzie, and $250,000 to the Portland (Ore.) Public Library staff pension and retirement fund by the late Winslow B. Ayer.

The Carnegie Corporation of New York has granted Smith College $175,000 for library development and Vassar College $160,000 for library endowment. A $75,000 memorial library and laboratory is being added to the Michael Reese Hospital, Chicago, as the gift of Louis Florsheim. The General Education Board continued grants for state school library supervisors and library schools in several southern states.

ADULT EDUCATION IN LIBRARIES

The first ten years of adult education in libraries are completely summarized as to accomplishment and work yet to be done, in the report issued by the Board on the Library and Adult Education of the A. L. A. under the title *The Library and Adult Education, 1924-1934.*

Studies of the relation of the library to such significant adult education projects as public forums, community adult education councils, recreational reading and study clubs, organized adult education and recreation in newly established planned communities such as those in the Tennessee Valley Authority, have been instituted under the Board on the Library and Adult Education.

Readable books, meaning non-fiction topics treated in an interesting, authoritative, adult manner but simply enough in vocabulary, structure, and concept to be easily read by persons of sixth grade ability, continued to receive especial attention as one of the first essentials to a successful library adult education program. Publishers and adult educators joined librarians in emphasis of this need and have started experimental production. The year saw the setting up in Teachers College, Columbia University, of an experimental writing project for readable books and the publication of *Adult Interests,* the results of a study by E. L. Thorndike, professor of Educational Psychology, Columbia University; a series of pamphlets known as *American Primers,* and other series holding varying degrees of readability among their objectives. Informal discussions and lectures at gatherings of publishers also indicated an aroused interest in the matter.

Cooperation with Emergency Education Programs and educational programs of the Civilian Conservation Corps and the National Youth Administration was carried on by many libraries. The effectiveness of such efforts has been limited by such factors as lack of books and funds, absence of allowance for library books in Federal Emergency Relief Administration or Works Progress Administration allotments, scarcity of qualified personnel available from relief rolls or on emergency funds, and remoteness of CCC camps. In spite of many such deterrents, effective informal reading programs have been or are being instituted in many localities through the cooperation of libraries and the educational directors of WPA, CCC, and NYA programs.

An appropriation of $75,000 has been made by Congress for the purchase and distribution of Talking Book Records for the use of the adult blind, which will make available an average of about one new Talking Book record per week during the year. A Federal appropriation of $211,500 has also been made for the manufacture of 5,000 Talking Book machines for the 120,000 adult blind. Several libraries are lending the American Foundation for the Blind recording machines as well as the records. A list of Talking Books for the adult blind, selected by librarians is available through the Library of Congress.

LIBRARY EDUCATION AND PERSONNEL

More than 60 librarians and educators attended a conference on Education for Librarianship in the South at Atlanta in November. Topics discussed were: library instruction needed for students, teachers-in-training and school administrators; training below library school level for school library work; desirable developments at the library school level, and the training of negro librarians.

Education for Librarianship: the Last Decade and the Next One, a 10-

year review of professional training, was published by the Board of Education for Librarianship of the A.L.A. Continuing education of librarians, specialization in a subject field antecedent to the study of library science, internship, and exchange of positions were selected as subjects for further study. Other topics considered were training below library school level, the problem of separating clerical and professional library work, and the need for special training for librarians of county and medical libraries.

Library schools connected with Hampton Institute and the following universities were aided by grants, totaling $83,000, from the Carnegie Corporation of New York for use in the year 1935-36: California, Chicago, Denver, Emory, North Carolina, and Western Reserve. The General Education Board continued its support of the library school at Louisiana State University and renewed grants to those at George Peabody College for Teachers and the College of William and Mary.

Minimum requirements for Teacher-librarian training agencies were adopted by the Council of the A.L.A., December, 1934. These were used for information or advisory assistance only, as the Board of Education for Librarianship has postponed indefinitely accreditation of library science courses of less than a full year in content. Visits to 22 teacher-librarian training agencies offering at least a half year but less than a full year of professional training were made possible by a grant to the Board by the Carnegie Corporation of New York. The A. L. A. Committee on Fellowships and Scholarships awarded grants to eight American and two Canadian librarians for study in 1935-36, from funds provided by the Carnegie Corporation of New York.

Employment in the library field showed improvement, though new positions for the most part were of a temporary nature or offered very low salaries. In a number of libraries a partial or full restoration of salary reductions was made. A number of unemployed librarians secured temporary appointment, usually to minor positions, but ranging from clerical work to bibliographic research, on local Federal relief projects. The library profession was represented at meetings of several groups interested in the employment of public service personnel through the wider recognition of the merit system in public employment and related problems of education and certification.

RESEARCH

Publication in the *Library Quarterly*, January, 1936, of the classified list of ''Graduate Theses Accepted by Library Schools in the United States from July, 1933 to June, 1935,'' compiled by Douglas Waples, brings this record of the research activities of the library schools to date. With the two preceding summaries, *Library Quarterly* III and IV, the series now covers the period 1928 to 1935.

Evidence of the increasing interest in library research is found in the activities of the Research Board of the American Library Institute, which is undertaking the ''investigation, study and discussion of problems within the field of library theory and practice.'' Two meetings of this new board were held during the year.

As a natural corollary to interest in research in the field of librarianship itself, there should be recorded a decided acceleration in the efforts of librarians to survey the whole broad question of library resources and research materials. *A Preliminary Study of Available Records and Efforts toward the Coordination of the Resources of American Libraries*, by the A. L. A. Committee on Resources of American Libraries, David J. Haykin, chairman (Chicago: A. L. A., 1935), is a summary of the work already done in this field.

Recent important publications relating to the subject of library resources were American Library Association, Committee on Resources of Southern Libraries (R. B. Downs, chairman), *Summary of Information on Southern Research Libraries* (Chicago: A.L.A., 1935); A. F. Kuhlman, ed., *Public Documents: Their Selection, Distribution, Cataloging,* *Reproduction and Preservation.* (Chicago: A.L.A., 1935); Special Libraries Association, *Special Libraries Directory of the United States and Canada* (New York: Special Libraries Association, 1935), and Marion V. Higgins, *Canadian Government Publications* (Chicago: A.L.A., 1935).

The Government of the American Public Library, by Carleton B. Joeckel (Chicago: University of Chicago Press, 1935), is the first in a series of three volumes surveying the relation of the library to public administration. This study is being carried on under the direction of the Graduate Library School of the University of Chicago with the assistance of the Carnegie Corporation.

Most important among the surveys of the year is *County Library Service in the South,* by Louis R. Wilson and Edward A. Wight (University of Chicago Press, 1935). Undertaken at the request of the Julius Rosenwald Fund, this investigation is not only an appraisal of the results of the Rosenwald Fund's county library demonstration but also more broadly a comprehensive consideration of county library development in the South.

The "Report of the Survey of the Public Libraries of Illinois," *Illinois Libraries* XVII (1935), is a summary of facts about Illinois libraries and their book collections. The survey was made as a Federal aid project under the direction of Anna May Price, superintendent of the Library Extension Division of the Illinois State Library.

Under the title, "Public Library Book Collections," *Library Quarterly,* V (1935), Leon Carnovsky summarizes the significant variations in public library holdings, as disclosed in the survey of libraries in the Chicago metropolitan district, carried out with Federal assistance by the Graduate Library School of the University of Chicago under the sponsorship of the Chicago Library Club. Other surveys currently in progress include a study of library facilities in Westchester County, New York, and a general investigation of the effects of the depression on libraries.

An analysis of the reading interests and difficulties of adults is made in *What Makes a Book Readable,* by William S. Gray and Bernice E. Leary (University of Chicago Press, 1935). (See *Libraries,* THE AMERICAN YEAR BOOK, 1934). Another reading study is Grace O. Kelley's *Woodside Does Read! A Survey of the Reading Interests and Habits of a Local Community* (Jamaica, New York: The Queens Borough Public Library, 1935).

An investigation of the relation of actual cataloging procedures to the content of courses in cataloging in Library schools was given in Susan Grey Akers' "The Relation of the Professional and Clerical Division of Cataloging Activities to Cataloging Courses," *Library Quarterly,* V (1935).

Experimentation concerning the use of films in the reproduction of newspapers and other materials of research continues to be the technical highlight of most interest to librarians. The general nature of the problem is stated by A. F. Kuhlman in "Are We Ready to Preserve Newspapers on Films? A Symposium," *Library Quarterly* V (1935). A further summary of the same subject by Vernon D. Tate appeared in the *Papers and Proceedings* for 1935 of the A.L.A. Public Documents Committee. Important research relative to the durability of films is being conducted by the National Bureau of Standards. This is outlined in the Bureau's Research Authorization, No. 73-9-9. Another important investigation of film use is being made by the Documentation Division of Science Service, Washington, D. C. (*Document* No. 72, Aug. 16, 1935).

AMERICAN LIBRARY ASSOCIATION

Officers for 1935-36 elected at the 57th annual conference of the A.L.A. were: Louis Round Wilson, Graduate Library School, University of Chicago, president; Franklin F. Hopper, New York Public Library, New York City, first vice president; Essae M. Culver, State Library Commission, Baton Rouge, La., second vice president; Matthew S. Dudgeon, Public Library, Milwaukee, treasurer. The conference was held June 24-29 in Denver, with 1,500 of the Association's 12,300 members and several foreign delegates present. The Midwinter Conference was held Dec. 29, 1935, to Jan. 1, 1936, in Chicago, and the 1936 conference will be held in Richmond, Va., May 11-16.

The annual Midwinter Conference of the association held in Chicago, Dec. 27-29, 1934, indorsed national and state planning, advocated Federal aid in the form of an annual appropriation, approved the establishment of a Federal library agency, registered a protest against tax limitation laws, and adopted minimum requirements for teacher-librarian training agencies. At the Denver conference the Association voted to defer negotiations looking toward permanent Federal aid to libraries for a year until a special committee created by the Council shall have given further study to the subject and reported at the next annual conference; to continue activities concerning state and national planning and the establishment of a Federal library agency, and to express appreciation to the German government for reducing by 25 per cent the export prices of books and periodicals to libraries.

A. L. A. PUBLICATIONS

Dobry, by Monica Shannon, received the Newbery medal award in 1935 as the most distinguished contribution to children's literature published during the preceding year. During 1935 the Association published the following tools for the use of librarians and library schools: *Gifts for Children's Bookshelves*, a buying list for the parent and a reading list for the child; *One Thousand Books for the Senior High School Library*, a compilation by a joint committee of the American Library Association, National Education Association and the National Council of Teachers of English; *Catalogers' and Classifiers' Yearbook No. 4; Buying List for Small Libraries*, a basic list of books; *Helps for Club Program Makers*, a list of subjects and source material; *Canadian Government Publications*, the first published checklist of Canadian documents; *Public Documents 1934*, papers presented at the 1934 conference of the Association on the selection and handling of documents; *Guide to Reference Books, Sixth Edition* by Isadore G. Mudge, a textbook for reference students and a reference manual for librarians and research workers.

OTHER PUBLICATIONS CONCERNING THE LIBRARY FIELD

Late 1934 and 1935 publications worthy of note include: *American Library Directory—1935*, (R. R. Bowker Co., 1935); Compton, C. H., *Who Reads What?* (Wilson, 1934); Esdaile, A. J. K., *National Libraries of the World.* (Grafton, 1934); Flexner, J. M. and Edge, S. A., *(A) Readers' Advisory Service.* (American Association for Adult Education, 1934); Haines, Helen E., *Living with Books.* (Columbia University Press, 1935); Lyle, G. R., *College Library Publicity.* (Faxon, 1935); McComb, D. Q., *Public Library Buildings*, (Los Angeles, 1935); Munn, Ralph and Pitt, E. R., *Australian Libraries*, (Melbourne, Australian Council for Educational Research, 1935); Munn, Ralph and Barr, John, *New Zealand Libraries*, (Library Association of New Zealand, 1934); Shores, Louis, *Origins of the American College Library, 1638-1800*, (Barnes and Noble, 1935).

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Arts and Letters, 633 W. 155th St., New York City.

American Academy of Arts and Sciences, 28 Newbury St., Boston, Mass.

American Booksellers' Assn., 35 E. 20th Street, New York City.

American Council of Learned Societies, 907 Fifteenth St., N. W., Washington, D. C.

American Library Assn., 520 N. Michigan Ave., Chicago, Ill.

American Newspaper Publishers' Assn., 370 Lexington Ave., New York City.

American Philosophical Society, Independence Sq., Philadelphia, Pa.

American Society of Composers, Authors and Publishers, 1501 Broadway, New York City.

American Society of Newspaper Editors, Buffalo Evening News, Buffalo, N. Y.

Association of National Advertisers, 330 W. 42d Street, New York City.

Associated Press, 383 Madison Ave., New York City.

Bibliographical Society of America, Grosvenor Library, Buffalo, N. Y.

Foreign Press Publicity Service, 258 Fifth Ave., New York City.

German Club, 5 E. 66th St., New York City.

National Assn. of Book Publishers, 347 Fifth Ave., New York City.

National Editorial Assn., 131 E. 6th St., St. Paul, Minn.

National Institute of Arts and Letters, 633 W. 155th St., New York City.

National Publishers' Assn., 232 Madison Ave., New York City.

Newspaper Advertising Executives Assn., Richmond Palladium, Richmond, Ind.

Peoples Institute, 70 Fifth Ave., New York City.

United Press Assn., 220 E. 42d Street, New York City.

U. S. Publishers Assn., Inc., 386 Fourth Ave., New York City.

AMERICAN LITERATURE

American Dialect Society, Bascom Hall, Madison, Wis.

Authors Guild, 9 E. 38th Street, New York City.

Authors League of America, Inc., 9 E. 38th Street, New York City.

Catholic Writers Guild of America, 128 W. 71st St., New York City.

National Assn. for American Speech, 174 W. 76th Street, New York City.

Simplified Spelling Board, Lake Placid Club, Essex County, N. Y.

LANGUAGE AND LITERATURE

American Classical League, First National Bank Bldg., Princeton, N. J.

American Oriental Society, Trinity College, Hartford, Conn.

American Philological Assn., State University of Iowa, Iowa City, Ia.

Dante League of America, Inc., 15 Gramercy Park, New York City.

Dickens Fellowship of New York, 15 Gramercy Park, New York City.

Modern Language Assn. of America, 100 Washington Square E., New York City.

DIVISION XXVI

THE ARTS

ARCHAEOLOGY

By Ralph V. D. Magoffin

Professor, New York University

UNITED STATES

New Mexico.—The past year has seen a greatly increased activity in State Archaeological Surveys, and in additions to the number of local, state, and national museums in North, Central and South America. A kiva, 18 feet square, near Bernalillo, New Mexico has yielded mural paintings on all four walls. On them are 29 heavy washes of plaster of which 9 have the murals. The painted figures are mostly masked dancers in pueblo costumes. The figures average 4½ feet in height. All are depicted in full face, with no attempt at perspective. After having been jacketed against accident, these murals were moved to the State University of New Mexico.

Kitchen Middens.—The finds of ''middens'' from Alaska to Vancouver, and those of refuse shell heaps along the California coast have helped interpret the history of 4,000 years. Dendrochronology has also been a factor in establishing correct dating.

CENTRAL AMERICA

Mexico.—Six more pyramids have been added to those already known. The largest is 1,000 feet square, 481 feet high, and covers 60 acres (Cheops in Egypt is 750 feet square). An ancient ''family album'' leaved in deerskin has been found at Oaxaca in southern Mexico. The native hieroglyphics are accompanied by Mixtec handwriting in the Spanish alphabet. The album is now in the National Museum in Mexico City. Its leaves are 11 accordion-like pleats. The name signs above the heads of three regal Indians are: Two Alligator, Four Deer, and Nine Dog. The Spanish date 1300 appears on page 2. The written line of marriages, the names of the people, clearly give several family genealogies. On p. 9 the natives have Spanish names and clothes. This change is dated 1610, and the family records end in 1684.

Mayas.—Eight stele have been found at Coba. Their hieroglyphics date Coba 200 years earlier than the hitherto oldest-held site at Chichen Itza. At Uaxactun a pyramid temple has been cleared, and its date, 68 A.D., established. The best work has been on three terraced pyramids situated in relation to an observer at a certain spot, so that the method has been determined how the Mayas marked the dates of the summer and winter solstices and of the vernal and autumnal equinoxes. The jade Tuxtla statuette has been dated May 16, 98 B.C., and the beginning of the Maya calendar August 6, 613 B.C., by Spinden of the Brooklyn Museum; Chichen Itza as 531-1448 A.D. by Morley of the Carnegie Institution of Washington; Tonina in Chiapas as 294-500 by Blom of Tulane, and Uaxactun as 68-630 by the scientists of the C.I.W.

SOUTH AMERICA

Peru.—Restoration of 20 sites near Cuzco, especially that of the ancient megalithic capital Sajsawaman and the Temple of the Sun, forecast imminent discoveries. Observations from the air have found and plotted more than 40 miles of the Great Wall along the Santa valley. In one place it tops the mountains at a height of 14,000 feet a.s.l.

Nascan Burials.—The discovery of hundreds of great mummy bundles has disclosed an unsuspected wealth of funerary trappings and also of Nascan life and manners. The contents of these bundles are, in part: feather fans and wands, ornaments of gold, turquoise, and carved shell and stone, and gourds with maize, beans, peanuts, yucca root, and potatoes.

ASIA MINOR

Troy.—The University of Cincinnati Expedition under Director Carl Blegen has continued work in the cemetery found last year. It seems to be one belonging to the poorer people. It dates in the VIth century B.C. One hundred and seventy-six burials were opened. They contained quantities of pottery and sherds. Five large broken and plundered *pithoi* were also found, but no precious metals. First evidence, however, has come that cremation was practiced during the period of the VIth City, *i.e.*, the native Trojan culture is not that of the other contemporaneous civilizations in the Eastern Aegean world. At Balli Dagh, excavation shows a small prehistoric village. There are no house walls until Hellenistic times. Here was a village long inhabited, but there is no possibility that this was the site of ancient Troy, as some Europeans have claimed. Across the river, Eski Hissarlik was also examined. It was never occupied by a permanent settlement. Further examination showed that Kum Tepe was not occupied in prehistoric times, although there are some small ruins contemporaneous with Troy IV and V; however, as against the claim by Ch. Vellay, there was no subsequent occupation. Under debris of Schliemann's excavation, Blegen found a large area of undisturbed deposit belonging to Troy I. A large area inside the gate of Troy VI was cleared down to the pre-classical layers. A necropolis of Roman date was found at the eastern edge of the Hissarlik plateau. Mosaics and an inscription were found nearby.

Cyprus.—Forty tombs have yielded much pottery and metal work. Near the hands of the male skeletons were bronze daggers, and near the female skeletons were pins, distaffs, and depilatory nippers. The vases found numbered over 1,500, 700 of which were intact. The ware is a lustrous red, and dates 3,000-2,100 B.C.

EGYPT

The Exodus.—The Palestine Exploration Fund Expedition has added new light to the growing belief that the Israelite refugees from Egypt took the extreme northern route, and that the pursuing Egyptians were "bogged and overwhelmed" in Lake Bardawil.

Thebes.—Director H. E. Winlock of the Metropolitan Museum began excavating in the Deir el Bahri valley at Thebes in 1912. Last season the work was mostly on the site of the temple of Rameses IV-VI. The most important finds were: a black granite stela of Rameses II, with the Pharaoh represented twice in the lunette at the top, making offerings to the god Amun, and the tomb of Nefer-Khewet and his family. Nefer-Khewet was a scribe, "archivist, chief treasurer, and keeper of documents in the house of God's wife, Hatshepsut." There are 10 burials of his family, all in beautifully decorated coffins, with several canopic chests containing splendid burial equipment. Below them were discovered five intrusive burials in single anthropoid coffins. These five bodies had been poorly mummified. Interesting objects found are: heart scarabs, an unguent spoon, kohl sticks, a bronze razor, knives, and hair curler, also many jars and bowls of serpentine, bronze, and faience.

Hierakonpolis.—The excavation of the Metropolitan Museum here followed the completion of the work at Lisht. An early find was a biographical stela of Har-em-Khau-ef of the XIIth dynasty. In front of the Fort was found a predynastic cemetery in which were early pottery, vases of basalt, and slate palettes.

Tutenkhamon's Clock.—The late Professor Breasted of the Oriental Institute, Chicago, found in an antique shop in London a clock on the back of which an inscription states that it was made by Tutenkhamon (or Tutankhamen) with his own hands. It is a type of transit instrument for determining the hours by the stars.

FRANCE

Alesia.—A new discovery at this site, famed in the annals of Julius Caesar, are the remains of a Roman theatre with a diameter of 81.75 meters. A temple within a court also came to light, as well as an open area, probably that of the Forum.

GREECE

Athens.—The year 1935 was the fifth season of work in the Agora under Director T. Leslie Shear of Princeton. Nearly half of the American Zone has now been cleared. The work of the past year has been on the west side of the Agora and on that part of the north side which includes the Stoa of the Giants. The clearance of the round Tholos (18.30 m. in diameter) last year has made certain, when tallied with Pausanias, that the identification of the Bouleuterion and Metroön was correct. An inscription on a statue base found *in situ* has identified the peribolos of the Twelve Gods. Shear inclines to believe that the Stoa Basileios is farther to the north and outside the limits of the American Zone. An intact grave of the geometric period was found in 1934, to the surprise of the excavators. Twenty more such burials, with 90 complete vases, were found last year. An unique find was that with a man's skeleton. No vases were in the grave, but under his left arm was a dagger of *iron*. Below a layer of earth was then found the skeleton of a woman with seven vases lying on her bones. Her skeleton lay in the opposite direction to that of the man's above her. The amount of material discovered this year, when added to the total, is tremendous: over 3,000 inscriptions of historical value; a dicast's ticket and a voting disk, both of bronze; 145 inscribed ostraka, 54 of them bearing the name of Themistokles. Several new names occur in the ostraka found last year, one of which is particularly interesting, that of Kallias, the athlete who won the Pankration at Olympia in 472 B.C. The coins to date number over 41,000; the vases are startling in their chronological value. Some date as early as the Neolithic period, *ca.* 3,000 B.C. Urns of geometric burials dating 900-800 B. C. have furnished examples from that period of both cremation and inhumation. Of the statuary found, the finest is a head of the young Augustus, a headless colossal marble statue of the Roman emperor Hadrian, a winged Victory of the Vth century, perhaps by Paeonius, and a headless figure in Parian marble, probably a Nereid; these are enough to guarantee the value and beauty of the many others.

Discoveries of protogeometric urn graves and the clay-ground pottery found in several places show an Athens with a cultural independence and continuity from Late Mycenaean to Geometric times.

Corinth.—O. Broneer of the American School has continued his work on the agora and its vicinity. South of the south stoa, outside the agora and east of the south Basilica, he found three rooms with good mosaic floors. The sculptural finds of the year are: a draped figure of over life size; a Nike; the upper part of a Hermes Kriophoros; two Roman portrait heads; a fragment of a statue in military dress with splendid decorated plates in high relief on the cuirass; six inscribed vases; a bone flute; four ink wells of terra cotta; a carved ivory comb decorated with two lions, and with two birds which stand on either side of a tall vase resembling the Eucharistic chalice. A fine bronze steelyard was found by F. O. Waage in the West Shops.

Malthi.—Another prehistoric Greek citadel and city must be added to the list of recently excavated sites, Malthi, near Vasiliko in Messenia. The work was done by a Swedish expedition. Three hundred and five rooms were found so joined as to form houses. The grouping and the magazines and store rooms resemble those at Gournia in Crete. The date is Middle and Late Helladic. The water supply depended not only on the spring in the east slope, but also on the supply kept in numerous cisterns near the outer wall, to which rain water was run by an elaborate system of conduits built under the houses.

Olynthus.—The excavations conducted by David M. Robinson for the Johns Hopkins University under the auspices of the American School at Athens, have proceeded with excellent results. On the North Hill enough more houses (some 70 now in all) were cleared to make three complete blocks of the residential portion of the city. The blocks are each 120 x 300 Greek feet (0.296 m.). On East Spur Hill was found the finest house thus far located. It was designated ''The Villa of Good Fortune'' because of an inscribed mosaic. Twelve mosaics were found, all made with natural pebbles in 5 colors. One was a Bellerophon on Pegasus hurling his spear at a Chimaera; another (6 x 3 m.), the one that has created the most interest, is that representing Achilles with his name in Greek above him, of his mother Thetis, who approaches followed by two Nereids riding ''side-saddle'' on sea serpents, one carrying a shield, the other a spear and an Attic helmet. Two hundred more graves were excavated in the Riverside Cemetery. The best of the objects found were: more than 200 vases; many large dishes and kothons; a big ostrich egg; mirrors and strigils; all throwing light on the burial customs and beliefs of the Olynthians of the late Vth and of the IVth century down to the destruction of the city in 348 B.C. Robinson also cleared the Fountain House and found its water supply pipe, broken inside the house but running out toward its source some 75 meters. Many wash basins and dishes of terra cotta were also found. During the year were discovered: 1,407 objects of metal, none later than 348 B.C., including axes, bells, bracelets, brooches, rings, fibulae, fish hooks, hinges, keys, knives, lead sling bullets (20 inscribed), bronze door plates, and a splendid brazier of bronze. Hundreds of terra cottas, mostly of local manufacture, more than 500 vases, and over 2,000 coins, the largest single hoard being one of 75 tetrobols, make up the total of the smaller objects found last year. Perhaps Robinson's best discovery of the year was an inscriptional fragment of a treaty between King Philip II and the Chalcidians.

Mekyberna.—This seaport town of Olynthus, three miles away, was also cleared by Robinson far enough to show that its town plan was Hippodamian.

IRAQ

Tepe Gawra.—This site is now pretty generally admitted to be that of the ''Oldest city in the world.'' The expedition of the University Museum, Philadelphia, and the American Schools of Oriental Research have continued their work with brilliant success. In the descriptions of excavating the successive strata, the numbering used begins at the top (the levels at Troy are numbered from the bottom). There are probably 22 levels in all of superimposed habitations. Gawra VI begins about 3,000 B.C.; Gawra VIII dates in the middle of the Fourth millennium, the period being Chalcolithic. The architecture was a surprise. It has both taste and balance. Four temples were found all designed to harmonize with the entire site. In them were found true arches in the courts of vaulted halls. On the other hand, contrasted with the architecture, the pottery was rather scant, and what there was, was both poor and undecorated. In the level of Gawra IX a prehistoric temple was laid bare. In X, XI, and XII the excavators came upon the remains of things of the Stone Age. The dates run 4,000 B.C. and earlier. A group of *libu* tombs was opened and many objects found of gold and electrum. In level XI were found objects of an extremely artistic type. Quite unprecedented are two bowls of obsidian, but the best object, one wholly unique, was a small wolf's head of electrum, the ears attached with copper pins, and which had a movable lower jaw. In XII, the last level excavated last year, the excavators came upon a stratum of the "Painted Pottery Peoples." Their pottery is to be identified with the al-Ubaid ware of the Samarra type.

Ur.—With 1935 the work of the Joint Expedition of the University Museum, Philadelphia, and the British Museum, under C. Leonard Woolley, came to a close, after 12 years of fruitful discoveries. As a final check on which to base comparative conclusions, a pit was dug down more than 50 feet to uncover the cemetery of the Jemdet Nasr Age. The burials found were of inhumation type, and the matting-wrapped bodies were found lying on their sides, with knees tightly flexed up at right angles to the trunks. During the excavation, every period from the Persian of the Vth century B.C. back to the Jemdet Nasr, was touched.

PALESTINE

Bethel.—Continuation of work last year has secured proof that the pottery is identical with contemporaneous pottery of Judah, and therefore that Bethel, although belonging to the Northern Kingdom, had larger trade relations with the south than had hitherto been supposed. Burnt pottery like that found at other sites, and dated, makes it possible now to say that Bethel was destroyed shortly before 587 B.C. Sherds and coins have also given dates for three phases of re-occupation: (1) late Persian; (2) first Hellenistic; (3) Hellenistic-Roman. The most important discovery of the year by the expedition of the American School in Jerusalem and the Pittsburgh-Xenia Theological Seminary is the proof that Bethel fell into Israelite hands in the XIIIth century B.C. before the fall of Lachish. Albright thinks Bethel is the Ai of the Biblical narrative.

Gerasa (Jerash).—The date of the Triumphal Arch dedicated to Hadrian has now been settled by the finding of an inscription which gives it, as well as the date of that emperor's visit to Gerasa, as 130 A.D. The South Tetrapylon has been laid bare. The great find of over 100 baskets of pottery and sherds dating II-III centuries A.D. is very important. Many terra cotta copies of well known Greek statues of the IVth century and of the Hellenistic period will be of immense value to students of art.

Tell ed-Duweir.—An ewer two feet high, in fragments, decorated with a series of animals, above which is an inscription, the third of the same type found in south Palestine, is the best find of the year. The other two were found by Grant of Haverford at Beth Shemesh and by the American School at Gezer. Starkey, for the Wellcome Archaeological Expedition, has found 120 graves in a Copper Age necropolis. The objects are dated XXII-XIX centuries B.C., and equate with Tell Beit Mirsim I and II. Another interesting discovery is that of a small Canaanite temple of the XV-XIII centuries. The excavation has given three phases of construction. Discovered also were fine ivory carvings, a scarab of Amenophis III, and several cylinder seals. The inscription above mentioned furnishes a check on the Canaanite (Phoenician) alphabet two centuries earlier than the famous inscription on the sarcophagus of Ahiram of Byblos.

Megiddo.—The work of the University of Chicago's Oriental Institute started to dig below the Solomonic stables. It found there the remains of private houses of the XI and X centuries B.C. Below this level was found a totally different culture of mud brick construction with pottery of the Late Bronze type. In this level were found scarabs of Rameses VII, and many other Egyptian objects. At the XII century level the proof was found that the city had met with a catastrophe, which was followed by a fire.

Gezer (Tell el-Jezereh).—It has been discovered that the earliest inhabitants of Gezer were non-Semitic Troglodytes who lived in the caves which pockmark the hill. About 3,000 B.C. a new race fortified the hill top; inside the walls, foundations of seven or eight successive cities were found, superimposed. The discovery of the great "High Place" has thrown light upon the religion of the Canaanites. The Gezer tunnel, excavated with flint knives about 2,000 B.C. was found to have been abandoned about 1,400.

SYRIA

Antioch.—The Princeton Expedition in the last four years has found over 250 mosaics, 117 of them in 1935. These mosaics date from 100 to 600 A.D. and fill a great gap in the history of painting. Perhaps the finest of them are two panels representing Oceanus and Tralassa in the midst of fishes. Another is an illustrated calendar representing the four seasons and the 12 months, personified as small figures carrying fruits and other symbols.

Dura-Europos.—In this wonder frontier city on the Euphrates in north Syria, Yale University and the French Academy of Inscriptions and Letters have completed excavation of the first Mithraeum ever found in the East. The walls are covered with painted decoration of 13 pictures representing Mithraic cosmogony and legend. Those for particular mention are: seven burning altars and seven cypresses; two seated bearded men in Persian costume interpreted as Zoroaster and Osthanes, founders of the Mysteries; a Mithras on horseback slaying wild animals with arrows (this corroborates Rostovtzeff's contention that Mithras was a rider god, warrior, and hunter, helping Ahuramazda in the fight against Evil). The sanctuary dates about 168 A.D. The synagogue found last year has been investigated further. Part of the murals were geometric designs in bright colors. A small temple of Zeus Kyrios found south of the Palmyrene gate has an inscription that dates the interior altar as 28/29 A.D. A second Persian mine, running beneath the ancient wall, was found near Tower 14. Near by was a new inscription of 117 A.D., and close by were three painted shields of wood that had belonged to Roman auxiliary cohorts. The paintings on two of the shields are: (1) the fight of the Greeks against Amazons on horseback, and (2) the entry of the wooden horse into Troy, and the sack of the city.

Ras Shamra (Ugarit).—Excavation stopped at the close of the year at 17 meters without yet reaching virgin soil. Pottery finds show that Syria had a sedentary population at as early a date as did Egypt or Mesopotamia. These discoveries make it necessary to revise our theories on the origin of many Old Testament religious ideas and practices, in the light of probable Syrian foundations. Pottery found in the levels 1450-1100, 2000-1450, and 3000-2000 B.C., with Egyptian objects helping to date the periods, are important. The corbel-vaulted rectangular tombs found at Minet el-Beida, the seaport of Ras Shamra, have brought many new facts of import into discussion. The ''Protophoenician'' of cuneiform type—but alphabetic—previously unknown, has been deciphered. Part of a Phoenician epic lauds Keret, king of Tyre and Sidon, for his exploits in south Palestine. Herodotus, therefore, was correct in having put this region of Syria as the early home of the Phoenicians. They probably went from south Palestine toward Tyre about 3000 B.C. Among other bits of information, Terah, the father of Abraham in the O.T., appears as a moon god.

MUSEUMS

Metropolitan Museum of Art, New York City.—Of the six red granite sphinxes of Queen Hatshepsut which adorned the middle court of her temple at Deir el Bahri, and which were broken up and thrown out by her successor Thutmose III, the fifth has been built up from its fragments by the Egyptian staff of the Metropolitan, and is now on exhibition at the entrance to the Egyptian rooms. The gift to the Museum by Mrs. Daniel Guggenheim of four Tournai tapestries make a fine addition to medieval representations of ancient mythology. The subjects are: (1) the birth of Herakles and Iphikles; (2) the marriage of Hercules and Dejanira; (3) the wooing of Iole; and (4) the Apotheosis of Hercules. New acquisitions of the year are: a limestone statue of the royal scribe Yuny; a quartzite head of Rameses II; a basalt statue of the hawk god Horus; the first Roman copy of the Eleusinian relief at Athens of Demeter, Persephone, and Triptolemos. The original was found in 1859 at Eleusis. The Museum's copy was done in the time of Augustus, and was found embedded in an old Roman wall.

Walters Art Gallery, Baltimore.—Among the many as yet unpublished and practically unknown objects, one has just been brought to light. It is an Etruscan gold *bulla* with two inscriptions, *Taitle* and *Vikare*, which are above the incised heads of two winged figures. The bulla has a removable stopper. Inside are remains of gum resin. Pliny (N.H. XIII,7) says that resin was used to prevent the evaporation of perfumes. Now, Daidalos and Ikaros are the father and son of Labyrinth fame and were the earliest air pilots. A stela of the IVth century B.C. at Bologna portrays Daidalos with an axe and saw. On this Walters Etruscan bulla, which is of the Vth century—therefore the *earliest* extant representation of Daidalos—the figure holds a saw in his left hand and an adze in his right. The other figure has a double axe and a square. Both figures, it is to be remembered, are winged. Quite apart from the many chronological, mythological, and philological possibilities here inherent, we may be sure that we have *taitle* equalling Daidalos, and *vikare* equalling Ikaros.

Field Museum, Chicago.—The excavation conducted by Stephen Langdon under the Field Museum-Oxford University Joint Expedition begun at Kish in 1922, was transferred last year to Jemdet Nasr, 18 miles from Kish. The finds were: many unbroken jars, hundreds of fragments of painted pottery, pictographic tablets in linear script, many cylinder seals, etc. The painted pottery fragments, the share of the Field Museum, are now tabulated and have been put on view.

PAINTING

By Florence Seville Berryman

The American Federation of Arts

GOVERNMENT SPONSORED MURALS

Activities and Purposes.—The United States Government's continued support of the fine arts, during 1935, constituted a tremendous impetus to mural painting. The Painting and Sculpture Section of the Procurement Division of the U. S. Treasury Department, organized in November, 1934, consolidated and extended the activities begun by the Public Works of Art Project. In pursuance of its purpose to secure suitable art of the best quality available, to decorate postoffices, courthouses and other government buildings throughout the country, the Painting and Sculpture Section announced during the first few months of the year, a large number of competitions for mural paintings. The projects are divided into two classes: those involving expenditure of less than $5,000 for art, and those more than $5,000. Smaller buildings are dealt with as local projects, larger buildings as national projects. In some cases of major decoration, the contests are limited to artists, selected by advisors; in other instances, all artists in the United States are eligible, and in a third category, only the artists of certain sections.

The Section announced that to insure justice to competing artists, outstanding designs submitted for a specific contest, which might not happen to be selected, would be considered for later projects. The Section further aided artists by suggesting subjects for decorative themes, as for instance, for United States Post Offices: ''Abstract Qualities—Speed, Security, Endurance, Courage, Honesty, Intelligence, Courtesy, Accuracy. American Post Office Episodes: Colonists' Mail from England,'' etc.

The expenditure for the embellishment of a Federal building was by general order authorized as one per cent of the total limit of the cost of a building, wherever possible. For the year 1934-35, this expenditure approximated $600,000.

The number of competitions held to Dec. 9, 1935, totaled 32, with 32 artists awarded contracts (both painters and sculptors). Seventy-three artists have contracts pending. The total amount of commitments was $316,477. The number of authorizations totalled 284, and the number of projects 92. Allotments reached a total of $656,364. Twenty states benefited by this work.

Two important exhibitions were held during the year, one in the Corcoran Gallery of Art, Washington, D. C. Oct. 22 to Nov. 29, the other in the Cosmopolitan Club, New York City, Dec. 2 to 15.

Justice and Post Office Paintings.—The most important work assigned by the Painting and Sculpture Section was the decoration of the Justice and Post Office departmental buildings in Washington, involving an expenditure of $170,128. The two buildings, treated as one project, are to have 22 painting units. The first painters selected as a result of voting by a special advisory committee, were Thomas Benton, George Biddle, John Steuart Curry, Rockwell Kent, Leon Kroll, Reginald Marsh, Henry Varnum Poor, Boardman Robinson, Eugene Savage, Maurice Sterne and Grant Wood. An invited competition was held for the remaining murals in the two buildings, for which were accepted the designs of Alfred D. Crimi, Karl Free, George Harding, Ward Lockwood, Frank Mechau, and William C. Palmer. Doris Lee and Tom Lea were also appointed.

Competitions and Winners.—Among the artists who won state, regional or invited competitions organized by the Section of Painting and Sculpture, many of whose murals have already been completed and installed in the respective locations, are the following:

In California, Charles Kassler II, of Los Angeles, two murals for Beverly Hills post office; sum allocated, $2,980.

In Connecticut, Arthur S. Covey of Torrington and Robert Lynn Lambdin of Westport, jointly, two murals for Bridgeport post office; allocated, $2,120. Thomas LaFarge of New York City won an invited competition for six panels for New London post office: $4,437.

In Illinois, artists nearly all of whom reside in Chicago, painting murals for post-offices of the respective cities as follows: Aaron Bohrod, Vandalia; Gustaf Dalstrom, Gillespie; Archibald J. Motley (negro), Wood River; Edward Millman, Moline; Frances Foy, East Alton; William S. Schwartz, Fairfield; Edgar Britton, East Moline, and Karl Kelpe, Carthage.

Regional competitions in the Middle West, and South resulted in the selection of Richard Haines of Marion, Iowa, and Ward Lockwood of Taos, N. M., jointly to execute mural groups for the Wichita, Kansas, post office and court house; allocated, $1,880.; of Henrik Martin Mayer of Indianapolis to do eight lobby panels for the Marine Hospital in Louisville, Kentucky; allocated, $1,925, and of David Silvette of Richmond, Vt., to paint three panels for the New Bern, N. C., post office; allocated, $3,129.

For post offices in Massachusetts: William Riseman of Boston, two murals for Lynn; allocated, $3,712, and Ross Moffett of Provincetown, one panel for Holyoke; allocated, $2,400.

In New Jersey, Gerald Foster of Westfield, a mural for Freehold post office; allocated, $882.

James Brooks of New York City won the competition for two murals for the Hempstead post office; allocated, $4,425.

Three Cleveland artists won competitions for murals for Ohio post offices, as follows: Michael Sarisky, one for Barnesville; allocated, $1,296; Jack L. Greitzer, two for Cleveland; allocated, $3,400; Clarence H. Carter, one mural for Ravenna; allocated, $778. Mr. Carter also, jointly with Richard Zoellner of Cincinnati, won a competition for six panels for Portsmouth; allocated, $4,158.

John R. Ballator of Portland, Ore., one panel for St. John, Ore., post office; allocated, $1,056.

In Pennsylvania, Paul Mays of Bryn Athyn, two murals for Norristown post office; allocated, $1,950., and George Harding of Philadelphia, seven panels for the Philadelphia customs house; allocated, $4,890.

Federal Art Relief.—The Federal

Government inaugurated two other activities for artists. The Treasury Relief Art Project, to employ about 450 experienced artists on relief at the time, to design or assist in designing works of art for Federal Buildings as a part of the Section of Painting and Sculpture, under the direction of Edward Bruce, with Olin Dows as chief. It is financed out of the Treasury allotment of Works Progress Administration funds ($530,784.00) and functions under Emergency Relief Appropriation Act of 1935. Ninety per cent of the artists employed were to be taken from the relief rolls, but on Dec. 3, this figure was reduced to 75 per cent by direction of the WPA Administrator. After a quick survey of artists on relief, a number were appointed as a result of competitions, or from information received through the Section of Painting and Sculpture. During the quarter-year duration of the project from its inception to the end of August, $26,332.12 were spent, 145 relief artists and 30 non-relief artists were employed. Fifty-seven mural and sculpture projects for post offices and court houses were undertaken, and 8 other projects including murals for miscellaneous Federal buildings, while 36 artists undertook easel paintings. Eighty-eight easel pictures were received.

The second project is directly under Harry Hopkins, Works Progress Administrator, and deals with four major arts. Holger Cahill is technical assistant, for painting, sculpture and crafts. His organization will administer $6,000,000 to employ 5,000 needy artists.

Mural Art in New York.—Many other mural projects were carried out, financed wholly or in part, by the Government. A number in New York City and environs were representative. Started under the Civil Works Administration, supervised and sponsored by the College Art Association, these murals had to be given preliminary and final approval by the Municipal Art Commission of New York City. All artists employed were residents of the metropolis. These mural projects included a series of pictorial maps for the Julia Richman High School, painted by Ben Knotts and Guy Maccoy; decorations for the north ward of Greenpoint Hospital, by Anton Refrigier, a mural for the solarium of the same, by Leon Hartl, and ten panels for the surgical ward by Moses Soyer; panels illustrating the history of mankind in terms of manual and physical power, painted by Maxwell B. Starr for the entrance hall of the Brooklyn Technical High School; decorations for the auditorium of the Seward Park High School by Vadim Chernoff; panels depicting tools and instruments of the machine age by Eric Most and Burgoyne Diller, for the Samuel Gompers High School; a mural illustrating immigrant participation in building America, for the mess hall at Ellis Island, by Edward Laning; panels for the recreation room of the House of Detention for Women, by Lucienne Bloch, and decorations for the reading room of the Woodside Library, by Buk Ulreich. In every case, the artists mentioned directed groups of assisting artists. In this New York project, work was undertaken in 35 public buildings (in many of which, more than one mural was painted), by more than 350 artists; when the work is entirely completed, the paintings will cover approximately 50,000 square feet. One-half the funds were furnished by the U. S. Government, and one-quarter each by New York City and New York State.

California.—Two monumental mural projects begun in California under the Public Works of Art Project, were completed by artists who had worked nearly two years, each partly at his own expense. Leo Katz' murals in the Frank Wiggins Trade School in Los Angeles symbolized the uses made of tools by the constructive and destructive passions of man. Stanton Macdonald Wright's mural painting, 2,000 square feet in size, installed in the Santa Monica Public Library, depicts the "twin streams of man's imaginative and inventive development." Some of the murals aroused violent hostility. Mr. Katz' mural mentioned above, although commended by authorities on art, was ordered removed from the Wiggins Trade School, by the Board of Education because of "its depiction of war and murder inspired by greed.'' A fresco of Sybils, painted by Maxine Albro in the Los Angeles Ebell Club, was obliterated by lye and the wall repainted. Alfaro Siqueiros' fresco of ''Tropical Mexico'' in a Los Angeles roof garden, was partly whitewashed to blot out figures of Mexican revolutionists. Two murals done by Xavier Gonzales under the Civil Work Administration in the municipal auditorium of San Antonio, Texas, were removed (although they had been there two years) because American Legion officials claimed they embodied symbols of Communism.

Rejected Murals.—Some controversies had to the end of the year, kept the murals from reaching the walls. The Municipal Art Commission of New York City, rejected a series of sketches by Ben Shahn and Lou Block, for murals to be painted for Riker's Island Penitentiary. The artists had worked in collaboration with trained penologists, among them New York's Commissioner of Correction, Austin H. McCormick, who enthusiastically approved their outlined plans, as did also Mayor LaGuardia. Hence, the Commission's action in rejecting them as ''psychologically unfit'' to be seen by prisoners, had unpleasant repercussions.

OTHER MURALS

In addition to the extensive mural painting under Government auspices, many independent projects were completed. Seven large murals by Ezra Winter, depicting the winning of the northwest territory from the British, were installed in the circular rotunda of the George Rogers Clark Memorial. William Yarrow's 13 panels representing various phases of sport, were unveiled in the gymnasium at Princeton University. A series of murals painted by Hugo Ballin for the Griffith Park Observatory, Los Angeles, represent the history of science and the growth of astronomy. Two murals were completed for Franklin Institute, Philadelphia: one by Henry C. Pitz, depicting the formation of salt and its myriad products (this mural sponsored by the Pennsylvania Salt Company), and one by F. W. Weber, representing the sources of color, various parts of this mural being painted in different mural techniques.

An enormous mural celebrating the northwest and the lumbering industry, painted by Kenneth Callahan of Seattle, was installed in Washington State Armory, sponsored by the Tacoma Lumbermen's Club. In the Los Angeles Museum's basement cafeteria, Buckley MacGurrin painted a ''Gastronomic History'' in fresco, covering 517 square feet of wall. A mural by Walter Pach was given to the College of the City of New York by members of the class of 1903. It interprets the college motto, ''Respice, Adspice, Prospice.'' A St. Louis painter, Joe Jones, painted a series of five murals interpreting life in Arkansas, for Commonwealth College, near Mena, Arkansas. A series of murals was completed by William Andrew Mackay for the New York State Roosevelt Memorial Hall, adjoining the American Museum of Natural History, New York City. These murals represent the allegorical history of the building of the Panama Canal.

AID FOR ARTISTS

Aid for depression-ridden painters and other artists took various forms besides Government financing. To mention two instances: a National Art Colony was organized for artists affected by the depression, for which the State of Virginia provided 2,500 acres of land about 100 miles from Washington; each artist accepted will have five acres and a bungalow studio. Mayor LaGuardia of New York City proposed a plan for a Municipal Art Center, where painters and others may exhibit without fee and receive total proceeds from any sales; the Mayor appointed a Municipal Art Committee of One Hundred, with 14 sub-committees to plan and execute an ambitious program, begun early in the year. Opinions differed drastically as to the value of various types of aid for artists. The Artists' Union, organized in the spring of 1934 in New York City, was in direct opposition to Municipal Art Projects, the Mayor's Committee, etc. and directed group action against them. Endeavoring to improve their own conditions, artists committed themselves to other plans, notably a rental policy adopted by the American Society of Painters, Sculptors and Gravers, whereby all works borrowed for exhibition by museums, art associations and other groups, even where cash prizes are awarded, would be subject to a percentage of the sale price of the painting or other work, as a rental fee. The refusal of museums, dealers and others, to accept such a ruling, precipitated a controversy which had reached no settlement at the end of the year but had resulted in the cancellation of a number of projected exhibitions, by organizations unable to meet the heavy increase in cost which the rental policy would effect.

House Joint Resolution 220 written by Representative William I. Sirovich was introduced in Congress, in the spring, to establish a new department in the Government, to be known as the Department of Science, Art and Literature. The hearings on this resolution occasioned impassioned arguments pro and con.

THE MELLON GIFT TO THE NATION

A gift to the nation of great importance, from Andrew W. Mellon, former Secretary of the Treasury, was announced by his attorney in connection with legal details of the Mellon income tax case, and in a second announcement in October. The gift will comprise paintings from his collection by great masters which he has been assembling for 30 years and is valued at $40,000,000, and declared by such authorities as Lord Duveen and Dr. William Valentiner to be, in their opinion, the most valuable of all modern art collections. It includes five of the greatest masterpieces from the famous Hermitage Collection of Russia, which Mr. Mellon purchased from the U.S.S.R. for a sum stated as $3,247,695. The five are Raphael's ''Madonna of the House of Alba,'' Titian's ''Toilet of Venus,'' Botticelli's ''Adoration of the Magi,'' Perugino's ''Crucifixion of Three Saints,'' and Jan Van Eyck's ''Annunciation.'' The second announcement stated that Mr. Mellon had deeded to the Mellon Public Educational and Charitable Trust, organized in 1930, an additional sum of $10,000,000 for the construction of a proposed national gallery of art in Washington, not to bear the donor's name. According to the deed, the project must not be delayed beyond June 30, 1941.

THE FRICK MUSEUM

The Henry Clay Frick collection, comprising 200 paintings by old and modern masters, and other works of art, was officially opened Dec. 11, 1935. It is housed in the Frick Mansion at 70th Street and Fifth Avenue, New York City, designed in 1913 by Carrere and Hastings, and enlarged, renovated and rearranged by the firm of John Russell Pope since 1931. Several new rooms and galleries are well integrated with the original interiors. This magnificent bequest to the public, revealed upon the death of Mr. Frick in 1919 and available after the death of his widow in 1931, is valued at $50,000,000 and is administered by a corporation with an endowment of $15,000,000 for the maintenance and enrichment of the museum. Dr. Frederick Mortimer Clapp, head of the Department of Fine Arts at the University of Pittsburgh and organizing director of the Frick collection, carried out most successfully Mr. Frick's desire that his collection should retain its intimate character in a residential setting. It is said he was inspired by the Wallace Collection in London to assemble one which should have the same relation to New York.

Such is the quality of the collection, that it is difficult to mention any works as ''highlights.'' But in the opinion of various authorities, the following are generally considered outstanding: Duccio's ''Temptation of Christ''; ''St. Francis in Ecstasy'' by Giovanni Bellini; Titian's portrait of Aretino; three paintings by El Greco, among them an ''Expulsion from the Temple''; Holbein's portraits of Sir Thomas More and Cromwell; Rembrandt's self-portrait, said to have been Mr. Frick's favorite, and perhaps the first in importance, in the collection; three paintings by Vermeer; five panels painted by Fragonard for Mme. du Barry, installed in a room of their own; a portrait by Chardin; Gainsborough's "The Mall;" a portrait of Philip IV of Spain by Velasquez; Goya's "Forge;" Ingres' "Comtesse D'Haussonville;" and a series by Whistler. One of the best known and most popular works, is Titian's "Man in the Red Cap."

EXHIBITIONS

The California Pacific International Exposition which opened in San Diego May 29, included an exhibition of paintings organized by Reginald Poland, director of the Fine Arts Gallery of San Diego. Emphasis was on artists of the west and southwest; there were also excellent representations of old masters, predominantly Spanish, in view of California's colonial history, and of Oriental art. The Fine Arts Gallery's permanent collection was augmented by loans from museums, private collectors, dealers and artists in the United States.

San Francisco.—Many more well-planned exhibitions of paintings than can be mentioned, were held during the year, including periodic displays of contemporary work, and special shows of old masters. In San Francisco, during the first weeks of the San Diego exhibition, there was a retrospective exhibition of American painting during three centuries, representing all the important painters. Of the 459 paintings, 18th and 19th century works were shown in the M. H. DeYoung Memorial, and 20th century works in the California Palace of the Legion of Honor, of both of which museums Dr. Walter Heil is director.

The Corcoran Gallery of Art, Washington, D. C. held its fourteenth Biennial of Contemporary American Painting, the largest exhibition yet held of the series: four galleries never before used for a Biennial, were added adequately to display 428 paintings by 353 artists. Also in the national capital, the First Annual Greater Washington Artists Exhibition of paintings and other works, was opened simultaneously in nine department stores on April 22, to remain one month.

Art Institute of Chicago.—The 46th annual exhibition of American painting and sculpture was held at the Art Institute of Chicago, after a lapse of two years because of the Century of Progress Exhibitions (1933 and 1934).

Carnegie Institute, Pittsburgh, held its International Exhibition of Paintings from Oct. 17 to Dec. 8. It created special interest, as the Institute celebrated the centenary of the birth of Andrew Carnegie, founder. A Spanish painter, Hipolito Hidalgo de Caviedes of Madrid, won first prize for his painting of a young South American negro couple, "Elvira and Tiberio," which was purchased by the Fine Arts Gallery of San Diego, which introduced this artist to the United States in 1930. The second and third prizes went to Americans, Charles Burchfield and Henry Mattson. This International was more inclusive than heretofore, having representation from 20 countries and the United States, and for the first time, Mexico, Argentina, Brazil and Chile. Of the 365 paintings, 87 were American.

Brooklyn Museum.—Of important special exhibitions, a display of 58 Spanish masterpieces reviewing the mediaeval and Renaissance periods (with emphasis on El Greco) was held at the Brooklyn Museum to inaugurate the opening, on Oct. 4, of its renovated building.

The Metropolitan Museum of Art held an exhibition of French painting and sculpture beautifully arranged in salons of consecutive periods of the 18th century.

Toledo and Detroit.—The Toledo, O., Museum of Art showed a loan collection of French and Flemish primitive paintings of unusually fine quality for six weeks in autumn. It gave a comprehensive cross-section of 15th and 16th century work. Fifty American-owned paintings by Frans Hals, said to be the most comprehensive show of his work ever held, was assembled in January at the Detroit Institute of Arts.

INTERNATIONAL EXCHANGES

American Art in Canada.—International cultural exchanges continued, despite political unrest. In response to a petition from trustees of the National Gallery of Canada in Ottawa, for an exhibition to acquaint Canadians with the United States' art activities, the Carnegie Corporation of New York subsidized the assembling of a traveling exhibition of 99 paintings by as many American artists, selected by Percy B. Cott, associate curator of the Worcester, Mass. Art Museum. The collection started on a two-year circuit, to include not only Canada, but also South Africa, Australia and New Zealand. A novel feature of the exhibition is the payment of a rental fee to each artist for the loan of his painting, and a service fee to dealers through whom the paintings were borrowed. It is thought this might have influenced the subsequent rental policy of the American Society of Painters, Sculptors and Gravers.

Italian Art.—Two large collections of paintings by contemporary Italian artists toured the United States. One of 80 paintings toured the Pacific Coast under auspices of the Italian Government. From this show, Carlo Carra's ''After the Bath'' was purchased by a group of patrons and presented to the Los Angeles Museum. The other exhibition of contemporary Italian paintings, first shown at the Quadriennale Exhibition in Rome, began its American tour in the Casa Italiana of Columbia University, New York City. The Metropolitan Museum of Art and private American collectors were among the lenders to a great exhibition of Italian painting and sculpture held in Paris in early summer. It was said to be more important than that in London in 1930; it included 490 masterpieces from 13th through 20th centuries.

Russia.—A comprehensive collection of Soviet art, including 50 paintings, assembled by the Society for Cultural Relations with Foreign Countries and sponsored by the American Russian Institute, the Pennsylvania Museum and the College Art Association, began a circuit of American cities, in Philadelphia, early in the year.

Van Gogh.—A large exhibition of the work of Vincent Van Gogh opened at the Museum of Modern Art, New York City, in November. Forty-five oil paintings and an equal number of drawings, etc. came as loans from two Dutch collections: the Kroeller-Mueller Foundation at Wassenaar, and from Vincent W. Van Gogh of Amsterdam, nephew of the painter. There were also many American loans to this show, which will tour the United States during 1936.

AUCTION SALES

Auction sale prices for paintings continued far below those of pre-depression years; but six of the finest paintings in J. P. Morgan's famous collection, which he sold through a New York dealer, fetched high prices (a total of approximately $1,500,000.00) about one-third of which was paid for Ghirlandaio's portrait of Giovanna Tornabuoni. Rubens' ''Anne of Austria'' and Fra Filippo Lippi's ''St. Lawrence Enthroned'' were bought by the Metropolitan Museum of Art. The famous collection formed by J. P. Morgan Sr. of 765 historic miniature paintings, including the finest work from the 16th through 19th centuries, was offered at auction at Christie's in London, June 24-27. They fetched a total of $340,651, said to be a little more than one-third what they cost the collector.

NECROLOGY

Many noted American painters died during 1935. Among them were Childe Hassam, dean of Impressionists in the United States (August 27); Charles Henry Demuth, outstanding modernist (Oct. 24); Stephen A. Douglas Volk, famed for his portraits of Lincoln; Jessie Wilcox Smith, painter of children (May 3); Walter Griffin (May 18); Gunnar Widforss, Swedish-American painter noted for his depictions of the Grand Canyon (died end of 1934); Bryson Burroughs (mid-November, 1934) distinguished for his modern interpretations of classic subjects; he was also curator of paintings at the Metropolitan Museum of Art; Edward C. Volkert, whose specialty was landscape with cattle (March 4); William Forsyth, dean of ''Hoosier painters''; who had a large share in the development of art in Indiana; William De Leftwich Dodge, mural painter; John Noble, painter of marines and scenes on French coasts, etc. (January 6); Adolph Frei, German-

American mural painter (April 29); Leo Mielzinger, portrait painter (August 11); Hubert Vos, portrait and genre painter (January 8); and a number of others.

PUBLICATIONS

A number of excellent and authoritative books about American painting in various phases, or by American authors, were published during the year. Among them might be mentioned *John Marin, the Man and His Work,* by E. M. Benson, first of a series of monographs published by The American Federation of Arts; *The Master, a Study of Michelangelo,* by J. Howard Whitehouse and Colin Rocke; *The Art of Renoir* by Albert C. Barnes and Violette de Mazia; *Seurat and the Evolution of ''La Grande Jatte''* by Daniel Catton Rich; *Making the Brush Behave,* by Eliot O'Hara; *Art Work—How Produced, How Reproduced,* by John Petrina (there last two, on techniques); *Biography of Paul Cezanne,* by Gerstle Mack; *Michelangelo the Man,* by Donald Lord Finlayson; two excellent reference works, published in Chicago, *Dictionary of Pronunciation of Artists' Names,* by G. E. Kaltenbach, and *A Parallel Chronology of Painters,* by Margaret Britton. Finally mention should be made of an invaluable publication, not a book, but a monthly issue, which has appeared since September, 1933: *The Index of Twentieth Century Artists* edited by Frances M. Pollack, published by The College Art Association (the great majority of the artists dealt with, are American painters.)

SCULPTURE

BY ROSE V. S. BERRY

WRITER AND ART CRITIC

RECENT EVOLUTION IN SCULPTURAL ART

The story of sculpture in the United States for the year 1935 is different from all previous history. Ten years ago, one would have said emphatically that a definite American trend had appeared. The output possessed craftsmanship of real merit, a fine, selective sense of subject matter, extraordinary freshness and vitality, unaffected grace, and in many instances truth, strength, and power. In the years that have intervened the world has grown smaller. Over-seas sculptors are exhibiting more frequently in the American art centers. Through archaeology and anthropology, an increasing amount of the sculpturesque expression of the world's most ancient peoples is ever coming to light and winning for itself profound respect. Apart from this artistic story of ancient civilizations there is a tremendous showing of savage and barbaric art. Even more than the stylized product of the ancients, the expression of the primitive sculptor in wood, stone, and ivory is influencing the modern sculptor. A law unto himself, without standards, freed from criticism and the power of public opinion, the savage sculptor is absolutely independent. He has shown the modern sculptor how to defy Greek ideals, it having been the classical tradition upon which the standards of western art were founded. The savage artist has no inherent taste for exact representation. He is the willing victim of his medium, satisfied to accept what his block of wood or stone will permit in form or delicacy of treatment. In the work of the savage, the modern artist has learned to organize, adjust, and assemble, rather than to portion, balance, and model in accepted conformity. Grown defiant of academical requirements the sculptor to-day elongates, shortens, and distorts at his pleasure. Disregarding the perfection of Greece and the grace, refinement, and vital characteristics of the Renaissance, the modern sculptor jumbles anatomy to please himself, subject only to the ivory, brick, cement, stone, or metal in which he works.

In this way and to this extent American sculpture had brought itself in 1934. Then, there came the Public Works Program of the Roosevelt Administration. As a reconstructive measure, public building long in contemplation was planned for immediate relief. Sculptors have suddenly found themselves facing restrictions—the requirements of architecture. Uniformity, to the extent of alliance in size, treatment, and function, has brought the sculptor to the point where he must comply, trusting to his skill, originality, and power of invention to gauge his merit. The outcome may gauge the individual sculptor and give him his place in American art. With the Public Works Project foremost in the minds of the artists, sculptors have been tremendously interested. New York City, The College Art Association, state and local auspices in Indiana, Cleveland, through its art museum, and Southern California, are regions where the Administration projects have gone steadily forward. Thousands of paintings and 600 pieces of sculpture, to date, have been commissioned or already submitted—finished products.

EXHIBITIONS

Friends of Oriental Art sponsored and circulated one of the most important oriental collections shown in the United States up to date. Chinese sculpture, some of it dating 2000 B. C., —inlaid bronze, implements set with precious and semi-precious stones, together with fine examples of Buddhistic statues—comprized the collection.

African Sculpture.—Upward of 600 examples of savage and primitive art were assembled in the collection that had its first showing in New York City under the auspices of the Modern Museum of Art. Nearly two hundred examples of this primitive sculpture were arranged for a traveling exhibition booked for Manchester, N. H., Cleveland, Chicago, Milwaukee, Baltimore, Hartford, and San Francisco.

Oceanic Sculpture largely of the South Seas—is booked for various museums—East and West.

The Century of Progress and San Diego Expositions assembled large collections selected from the exhibitions of 1934-35, which they exhibited throughout the season. The following sculptors were represented with two to 20 examples to each name: Alexander Archipenko, Brancusi, Andrew Bjurman, F. Tolles Chamberlin, David Edstrom, Wesley Farrington, Merrell Gage, Archibald Garnet, Sadakichi Hartman, Donald Hord, Anna Hyatt Huntington, C. Paul Jennewein, Sargent Johnson, Atanas Katchamakoff, Ivan Mestrovic, Gordon Newell, Ruth Peabody, James T. Porter, Arthur Putnam, Jacques Schneir, Isabelle Schultz, Bertha Silsbee, Ralph Stackpole, Katherine Stafford, George Stanley, Bessie Potter Vonnoh, and William Zorach.

San Francisco.—Thirty years of sculpture in California, shown in the Veteran's Memorial Building, in San Francisco, included work by Beniamino Bufano, Nrents Carlton, Warren Cheney, Ruth Cravath, Paul Fair, Robert S. Howard, Joseph Hudner, William G. Huff, Ajax Jackson, Sargent Johnson, Valeria Kaun, Adaline Kent, Frederick Olmstead, Gotardo Piazzoni, Arthur Putnam, Carl Schmitz, Jacques Schnier, Ralph Stackpole, Douglas Tilden, Michael Von Meyer, and Edgar Walter.

Brooklyn Museum.—Thirteen sculptors were included in the exhibition of the Brooklyn Museum where space permitted the artists anywhere from five to 30 pieces of sculpture each. Included among the exhibitors were Sonia Gordon Brown, Enfrid Anderson, Laryla Lednicka, Minna Harkavy, S. B. Kahan, Arthur Lee, Georg L. Lobey, William Muir, Eleanor Platt, Hugo Robus, W. W. Rosenbauer, John Kellogg Woodruff, and Jane Wasey. Robert Laurent, Gaston Lachaise, and William Zorach were omitted because they were exhibiting with a group at the modern Museum in Manhattan.

Modern Museum New York.—Living sculptors, at the Modern Museum, in New York City, included Lehmbruck, Lachaise, Malliott, Brancusi, Despiau, Epstein, Laurent, Kolbe, Zorach, Stern, Duchamp-Villon, Isamu Noguchi, Matisse, Flannigan, Haller, Barlach, and Ben-Shumel. The group of Negro sculptors in the exhibition, included Agusta Savage, Richmonde Barthe, William Artis, John Bowe, and Leslie Bowling.

PRIZES AND AWARDS IN SCULPTURE

The National Academy of Design awarded the Ellin T. Speyer Memorial Prize to Bruce Moore; the Helen Foster Barnett Prize to Walter Hancock, and the Elizabeth N. Watrous Gold Medal to Brenda Putnam. The Pennsylvania Academy of the Fine Arts awarded the George D. Widener Memorial Medal to Heinz Warnecke for his sculpture group ''Wild Boars.'' The Art Institute of Chicago awarded first prize to Edouard Chassaing. The National Society of Women Painters and Sculptors awarded the Lindsey Morris Memorial Prize to Gaetano Cecere. Allie V. Tennant received the award of the Dallas Art Society, and Dicken Wiken the award of the Milwaukee Art Museum. The Guggenheim Foundation awarded prizes to Carl Walter, Vincent Glinsky and Mitchell Field. The Beaux Arts Prix de Rome was awarded to Phimister Proctor, Jr.

ONE MAN EXHIBITIONS

Malvina Hoffman, George Grey Barnard, Max Kalish, Gaston Lachaise and Benimano Bufano exhibited important examples of their work including 30 to 80 pieces each. Other sculptors who gave one-man exhibitions with fewer pieces were Wood Abrahms, Enid Bell, Stuart Benson, Richmond Barthe, Ettore Caser, Rhys Catern, Nathaniel Choate, Fletcher Clarke, Doris Caesar, Chaim Gross, F. E. Hammargren, Julian H. Harris, Ben Karp, Ruben Nakian, Isamu Noguchi, Eugene Shonnard, Maurice Sterne, Stella Elkins Tyler, and Wynne Byard Taylor. Among several prominent foreign exhibitors were Rudolph Belling the German sculptor, Mateo Hernandez, the Spanish sculptor, and Charles Despiau, the French portraitist.

COMMISSIONS AND PLACEMENTS

Chester Beach placed his fifth portrait bust in the Hall of Fame; an equestrian statue of Pizarro by the late Charles Cary Rumsey was unveiled in Lima, Peru. Alfeo Faggi's portrait of Noguchi was purchased by the Cleveland Museum. Carl Milles was awarded the $60,000 War Memorial for St. Paul. James E. Fraser completed a 125-feet pediment for the Archives Building in Washington, together with four other pediments for the Department of Commerce Building, and two figures—Justice and Justice Tempered by Mercy—for the Supreme Court Building. A. A. Weinman's ornamental frieze on four sides of the Supreme Court Room, has been installed, and his north pediment for the Archives Building is completed. Robert Airken used portrait figures of Taft, Hughes, Root, and Cass Gilbert in his front pediment of the Supreme Court Building. The east pediment is by Hermon MacNeil. Paul Jennewein has done the sculpture for the Department of Justice Building. Wheeler Williams, Edward McCartan, Albert Stewart, Cherry Fry, and Edmond R. Amateis, together with Edgar Walter, who is doing the pediment, are working upon the Labor Department Building.

FEDERAL ART UNDER THE PWA

Until the Treasury Department's Section of Painting and Sculpture sees fit to exhibit the 600 and more sculptures that have come to them through the project of the PWA, there will be only glimpses now and then of the achievement. President Roosevelt unveiled the statue of a CCC Worker, by John Palo-Kangas, in Los Angeles, just before boarding the U. S. S. Houston for his vacation. The 12 winning sculptors selected to execute a statue each for the Post Master General's reception room were Stirling Calder, Gaetano Cecere, Chaim Gross, Arthur Lee, Aronzio Maldarelli, Berta Margoulies, Atillio Piccerelli, Concetta Scarvaglione, Carl Schmitz, Louis Slobodkin, Heinz Warnecke, and Sidney Waugh.

XXVI. THE ARTS

ARCHITECTURE

By William Emerson

Dean, School of Architecture, Massachusetts Institute of Technology

EFFECT OF GOVERNMENT JOBS ON PROFESSION

Reports from the different corners of our wide land indicate that the Federal Government, in its many manifestations, provided the largest part of architectural opportunity available in the year 1935. The government policy of engaging architects to work in Washington, and on a salary rather than a commission basis, is both demoralizing to the profession and expensive for the public. This is the conviction, not only of those architects who have survived the experience, but of the building trades that have cooperated with them. While of present use to the draughtsman or recently graduated architectural student, the opportunity of a government job tends to narrow rather than to broaden or develop both his resources and his outlook because of the bureaucratic conditions under which he works and the limited field with which he comes in contact. For the practicing architect torn loose from his local associations and from opportunities for the development of his individual capacities, it is readily seen how utterly demoralizing such an alternative use of his time and abilities must be. He becomes a small unit operating in a limited field under conditions deadening to his creative powers and capacity for initiative. And yet, in spite of these conditions, the devotion of the profession to the highest standards of service and to the best interests of its clients, whether public or private, is unshaken, and a percentage of something that approximates optimism can be detected if a sufficiently sensitive recording instrument is employed.

FEDERAL, STATE, AND MUNICIPAL BUILDING

Under these auspices throughout the country, work of great value to the public has been carried out in such well known categories as Post Offices, Court Houses, Expositions, Hospitals, Libraries, and Schools. In the latter group, perhaps the most interesting result is the Indian Schools in which Navajo methods and materials are being employed. Airports are among the relatively new architectural problems which, because of the interesting opportunities that they offer for research in new materials and new conditions, are receiving special attention. Another field of growing interest—presenting a real challenge to the creative designer—is that of great engineering projects, such as dams, bridges, power stations. Such structures offer exceptional opportunities for that collaborative effort between architect and engineer that may well call forth the best in both professions and should result in a better understanding of their mutual usefulness. The dam at Valhalla in Westchester County, New York, sets a standard that might be emulated at Boulder Dam or Tennessee Valley. These and many other new problems provide a test for the architect's training. His ability to study the essential requirements that are inherent in new conditions, how he may use new materials, how he may apply his study of the past, are all at issue. The true recognition of the practical, together with the sound application of the theoretical, where both are inspired by creative imagination, will produce an answer to the modern problem that is convincing to the public and that is well within the capacity of competent architects.

HOUSING

The country's greatest effort has been made in this field. That much has been accomplished to satisfy the need for improved conditions is unquestioned. That there is still an almost unlimited opportunity for betterment is also true. The problem is being studied from an increasingly broad point of view; it is at least no longer regarded as a real estate speculation. Never before has so much attention been given to the betterment of living conditions, both within and without the walls of the house. The safeguarding of child welfare and the increase of recreation facilities testify to a consciousness of human needs and to an increasingly democratic approach to this vital problem. There has been great progress in awakening public interest and in recognizing that the housing problem, like common school education, must be solved by local community action, the central government contributing only financial help and guidance.

In spite of this unmistakable improvement in point of view and in outlook, there is, nevertheless, a pitifully small proportion of suitable housing accommodations available today at a rental within the income reach of those most sorely in need of better living quarters. If, as Sir Raymond Unwin is quoted as saying, we "have gone further in this field in three years than Europe has in twenty," nevertheless, the gap between what has been accomplished and what is needed is still unspanned and calls for better coordination and better leadership than has yet been developed.

TENDENCIES IN GENERAL CONSTRUCTION

Remodelling and Rehabilitation.—In general, construction other than that covered in the two categories mentioned above, certain tendencies are apparent that are noteworthy. The cry of the hour is—New Fronts for Old! Remodelling, rehabilitation are conspicuously to the fore. Where this work is handled by architects, rather than draughtsmen, and undertaken by clients with a respect for real values, ingenious, even stimulating, results have been achieved. Unfortunately, too much of this work is of the most transient nature and of the poorest materials. While small stores, restaurants, bars, and so forth, are conspicuous in this field, both serious and valuable work has been done in redisposing the spacious areas of old apartments to meet the modern demand for economy of movement as well as of outlay.

House Design.—There are, of course, many individual small houses. In these, as well as elsewhere, a pronounced attempt at simplification in design is apparent, coupled with a nice appreciation of the qualities inherent in new materials. These latter conspire with air conditioning and illuminating devices to materially alter the appearance of our surroundings.

Public Buildings.—Notable in a year when competition has been almost entirely limited to the field of housing, are the competitions for the Federal Reserve Building in Washington and for the Davidson County Court House at Nashville, Tenn. These were won, respectively, by Paul P. Cret and Frederick C. Hirons and both show sound planning expressed by elevations thoroughly modern in general expression, but essentially classic in articulation. Both are the work of architects well versed in the principles of good architectural composition and capable of finding an expression that is in harmony with the character of their buildings and their environment.

Consideration of Beauty.—It is well that new materials and new problems should produce new proportions and new forms, but in the current preoccupation with the expression of structure and function lies the danger that too little thought will be given to beauty. It is not enough that standardized units be assembled in elevation to express the structural elements of the plan. This is only the construction essential to any sound building. Let these forms and materials be so studied that they express in beauty of line and proportion the true character of the structures they represent and we shall achieve results that are truly architectural solutions of our current problems.

EDUCATION

No one of the major architectural activities is of greater significance for our professional future than that of education. Here the year 1935 happily finds teachers and practicing architects uniting so to organize the preparatory steps leading to registration for practice, that the best of foundation training is assured for future architects.

It is no secret that this and many other efforts toward the education of the public, through the better training of teachers of art, has been made possible during these lean years by the sustained generosity of the Carnegie Corporation.

A sound and highly desirable adjustment to new requirements is apparent in the educational policies of those Schools of Architecture that are neither clinging to the now empty glories of their conservative past nor showing unaccustomed gastronomic agility in swallowing, without assimilating, new and untried ideas. Constructive growth, rather than the adoption of alluring panaceas, is the best outlook for education.

Architecture is recognizing that in City Planning, Landscape Architecture, and Industrial Design, in Acoustics and Illumination, in the field of Decoration and Drama, lie precious outlets for many of its talented students. Design is the basic essential in all of these fields: a common factor that varies in its expression as the medium varies through which it is to be expressed. It is ever limited by those barriers imposed by materials and manufacture. It is at the same time stimulated to its most notable expressions by these very limitations.

Having in the past learned much from foreign methods and teachers, American Schools are now showing a much needed adaptation of these methods to conditions that are peculiar to this country. They are developing a technique of their own, adapting their policy to the best use of the facilities existing in the universities or technical schools to which they belong. A noteworthy individuality results. It is further apparent that the different elements in school curricula are no longer separated into water-tight compartments. A realization of their mutual relation, and their enhanced value when properly correlated, is a distinguishing characteristic of modern education.

PUBLICATIONS

The Press.—Here we come to a field whose usefulness to the profession is all but untried. The year 1935 has, in certain communities, shown an appreciation by the press of the public interest in architecture that is all but unprecedented. Some publications have gone so far as to establish current critical reviews of new building designs. Lewis Mumford in the "New Yorker" is a conspicuous and stimulating example. Such analytical comments on current work—helping the public to appreciate the value in use and appearance of the architect's service, if contributed forcibly and impartially by a group of capable writers, rather than by interested architects, would be a great public service.

Magazines.—The professional magazines, as never before, are filled with valuable statistical information concerning essential living facilities. This all tends rather toward the creation of a "machine for living" than of the house as it has hitherto been understood. But there is no real incompatability between the two conceptions—it is more a matter of emphasis and that, perhaps, is a question of individual taste.

Books.—Among the interesting publications of the year should be included: Thomas Adams' *Outlines of Town and City Planning* and the same author's *Design of Residential Areas.* These volumes are both authoritative and constructive in material and thought. Catherine Bauer's *Modern Housing* is one of the most stimulating and thoughtful books that has been published in this field. Ely J. Kahn's *Design in Art and Industry* is a timely analysis of teaching tendencies and possibilities in different countries that sheds light in many dark places. Marjorie Sewell Cautley's *Garden Design* brings an entirely new thought to a much discussed subject. Her foliage classification according to texture, color, and scale is a contribution of practical value to the profession. *Upper Ground* by H. Van Buren Magonigle as it appeared in *Pencil Points* is one of the real literary contributions of the year. The work of a scholar and artist, a distinguished practitioner, it brings a challenge to all thinking architects whether in agreement with, or in opposition to, his thesis. That this valiant, sensitive spirit should no longer be with us to shake us out of our ruts and to set an ever higher ideal before us is a source of deep sorrow to the many men who knew, admired, and loved him.

MUSIC AND THE OPERA

By Catherine Smith Bailey

Music Reviewer, *The Christian Science Monitor*

FEDERAL MUSIC PROJECT

The inauguration of the Federal Music Project was probably the most significant event in American music during the year 1935. It may well prove the most significant musical happening in decades. Under the able leadership of Nikolai Sokoloff, an orchestra conductor of great ability and reputation, the Government at last interested itself in music in this country, and both directly and indirectly has begun to subsidize music. The Federal Music Project is not another species of dole. It aids music as well as musicians.

Creative in aim, it sorts out the competent musicians from among those who are merely unemployed and sets them to work for the cultural benefit of the community as well as for their own benefit. The Government has set aside $25,000,000 to be used for musicians, dramatists, writers and workers, a substantial share of which is to go to music. Copyists, conductors, performers of every variety, piano tuners, workers in every branch of music who are competent and equipped to do work of a reasonably high standard will be employed in a coherent and logical scheme. Workers in the Federal Music Project will receive wages above those of men on regular relief, yet their pay will be lower than the union scale of private employment. The aim of the Project is to take the more competent among musicians off the hands of the local administrations which deal with every variety of unemployment and make use of any real musical skill which may be available. The Project has established 10 centers of examination and distribution of jobs and funds. The plans include work for the unemployed, reports of the quality of work they do, notice of particular individual ability, the creation of a larger listening public, the establishment of more music festivals, cooperation with units interested in drama, operetta and vaudeville, the direction of music education and the placing of teachers in rural communities, CCC camps, and the National Youth Administration. All these aims, if fulfilled, imply better musical opportunities than have ever existed in this country before, openings for young native composers and conductors, opportunities for class instruction in musical theory and appreciation, and performance on instruments. The hope is that private instruction of individuals by private teachers will in no way be infringed.

Difficulties have, however, arisen. In New York City, Arthur Judson, a musical manager, protested because the concerts of the WPA (Works Progress Administration) orchestras in New York, after having been open to the public without charge, were then offered at a small admission fee. Similarly the Musicians Union opposes the charge of admission because the lower wages of the WPA constitute in their estimation a form of ''yellow dog'' contract which would eventually force down the wages of musicians regularly employed in professional ventures. Also the union opposes the employment of WPA musicians on the air at a rate below that prevailing at the broadcasting studios. But to date the union has made no move to follow the lead of the Federal Music Project and limit its membership to competent players only. It still includes in its ranks musicians of every quality, all of whom must be paid at the same rate.

THE METROPOLITAN OPERA COMPANY

The beginning of 1935 found the Metropolitan Opera Company in a financial muddle. Not until the middle of March did a solution begin to present itself, when the Juilliard Foundation decided to cooperate with the opera company management to the extent of offering a guarantee fund of $150,000. Among the conditions which the Foundation laid down were that the Metropolitan must add $100,000, and that there should be a double season of opera. The winter season was to last 14 weeks during which time seven dollars was to be the top price. A supplementary season at popular prices was to follow, extending into the spring and summer with a top price of three dollars. The supplementary season was to consist in large measure of works in English and was to employ more native American singers. Among the singers there were to be included some from the Juilliard Graduate School. A triumvirate consisting of Witherspoon, Ziegler and Edward Johnson replaced Gatti-Casazza, and with three members of the Juilliard group sat in on the board of directors. In addition to the guarantee fund and the double season the Metropolitan had to agree to secure 10 per cent more subscriptions, make a wage agreement with the employees embracing a cut in weekly salary in exchange for a longer season of employment, and draw up terms of agreement with the leading artists whom the management wanted for the ensuing season. The supplementary season was to be conducted by a new corporation which was to include the Metropolitan and represent a proper balance between it and the Juilliard group. The deficits of the two seasons are to be met *pro rata*, and anything left over and any profits made are to go into the guarantee fund. The Sunday night concerts have been definitely discontinued and the popular priced Saturday evening performances have been curtailed. The experiment is proposed for one season.

Every effort was made to make the first season under Edward Johnson a real success. The Metropolitan Opera Guild, a sort of glorified women's auxiliary of which Mrs. August Belmont was the chairman, made an intense membership drive, and sought to raise funds to make it possible for indigent students to attend performances. The enthusiasm of those working for the Metropolitan resulted in increased subscriptions and consequently better financial prospects.

When the future of the Metropolitan looked gloomy indeed the hope was expressed by W. J. Henderson and others that some really radical changes might be brought about by new management; that native singers might be given real opportunities; that an American might be found to act as manager; that operas might be given in English and become so really popular that the tiresome contention about English not being singable would not again be advanced; that the foreign stars might be persuaded to add two or three rôles in English to their repertory, and that all these reforms might lead to a ''well-fed box office instead of a hungry one.''

As it turned out, there was little if any actual reform in the opera management. Mr. Johnson's repertory for the season 1935-1936 proved the most old-fashioned and ultra-conservative in 25 years. No original American work found its way to the lists. The star system continued to reign supreme. A season of Verdi-Wagner-Puccini repertory was launched because that seemed to be what the public was willing to pay for. Society—with a capital letter—has been enticed back to the Metropolitan. The Golden Horseshoe glistens once more, and nearly everything for which Gatti-Casazza and the old management were criticized by the new management is still firmly esconced. Some changes have been made. There were three new singers engaged, Gertrud Wettergren, Marjorie Lawrence and Dusolina Giannini. A new ballet was organized with George Balanchine as ballet master. Leopold Sachse, general manager and stage director of the Hamburg Opera was appointed stage director of Wagnerian Opera. The orchestra was reorganized, with 15 new players in the strings and woodwinds.

The year's changes and reorganization have given an impetus to the Metropolitan which promises well for its future from a financial standpoint. Even though the American works introduced by Gatti-Casazza have been thrust into the background, and even though only ''Norma,'' ''Carmen,'' ''Pelléas,'' ''La Juive'' and ''Don Giovanni'' break the Verdi-Wagner-Puccini lineup, the Metropolitan was enabled to continue and has in some considerable measure reëstablished its prestige.

OPERAS PRESENTED

"Lady Macbeth."—Shostakovich's opera ''Lady Macbeth'' had its first American performance on Jan. 31, 1935 in Cleveland and was performed again in New York on Feb. 5 at the Metropolitan Opera House by the Cleveland Orchestra Association under Arthur Rodzinski. The singers and chorus were almost entirely members of the Art of Musical Russia. The performance in New York was held under the auspices of the League of Composers for the benefit of the Composers' Fund of America. It was sung in the original Russian at these performances. The libretto is an adaptation by the composer and A. Preis from Leskov's ''Lady of Mzensk District.'' The scenery was done by Richard Rychtarik, scenic artist for Cleveland Orchestra's opera series. The consensus of the music critics seemed to be that it has no real music to make it last and it is so clearly a product of its particular day in Russia that it cannot be expected to survive the modification of ideas and culture which a few years will bring in the country of its origin. Adjectives describing the work included flimsy, lurid and callow. ''Beside this'' wrote one irate critic, ''the 'realism' of a Strauss of Salome is sheer pastoral poetry. . . . But Shostakovich. . . . somehow succeeds in dramatic accent and movement.'' In April the opera was again performed under Alexander Smallens's direction with the Philadelphia Orchestra and the Art of Musical Russia.

"Porgy and Bess" was presented to the public in the fall. This was George Gershwin's setting of DuBose Heyward's play, ''Porgy.'' This folk opera was given a good reception and has had a long run. Mounted under the auspices of the Theatre Guild with an all-Negro cast, this opera—and ''Porgy and Bess'' is opera if ever anything was—has set an American record for successive performances.

"In the Pasha's Garden."—The old management at the Metropolitan gave a performance of John L. Seymour's ''In the Pasha's Garden'' on Jan. 24, 1935, this being the vehicle with which Helen Jepson made her American debut. Marek Windheim and Lawrence Tibbett were also in the cast. The opera met with a chilly reception from the critics.

"Maria Malibran."—In April the Juilliard Opera School gave four performances of Robert Russell Bennett's ''Maria Malibran,'' this being the third American opera to have its premiere at the Juilliard School. The libretto was the work of Robert Simon, and Albert Stoessel conducted. The story deals with the career of Maria Malibran, a popular opera star of the 1820's. Much of the music was set against a flexible, rhythmic speech. The orchestra 'paced' the action, underscored it, and commented on it.

"Minnehaha."—The Manhattan Opera House was the scene of a performance on Jan. 29 of Engel's ''Minnehaha,'' with Cesare Sodero as conductor.

Musical Russian Series.—In February, the Art of Musical Russia began a series of performances in New York City at Mecca Temple under the leadership of Efrem Zimbalist, including in their repertory ''Pique Dame,'' ''Eugene Onégin,'' ''Prince Igor,'' ''Coq d'Or,'' and ''Boris Godunoff.''

POPULAR OPERA

Salmaggi put on performances by his opera troupe at the Hippodrome in the spring, with five performances a week at popular prices. The New York Opera Comique flourished enough to take its repertory to Hartford and Chicago in March. The Chicago Opera Company put on a season of popular opera at the New York Hippodrome in the spring, beginning April 4. The Philadelphia Orchestra sponsored a series of 10 operas with Fritz Reiner conducting. Among the operas was Mozart's ''Figaro'' with a new English translation by E. J. Dent. Verdi's ''I Vespri Siciliani'' was revived at the Brooklyn Academy of Music in November. Ethel Leginska's ''Gale'' was given its first performance on Nov. 23 at the Chicago Civic Opera House by the Chicago Grand Opera Company, with John Charles Thomas in the leading rôle. In this composition, Leginska had woven much interesting folk music material through the story of fratricide on the cliffs of Cornwall, England. The Detroit Civic Opera Company opened its seventh annual season on May 7 with Puccini's ''La Rondine'' sung in English. Deems Taylor's ''Peter Ibbetson'' was also given in May, with most of the original cast including Bori and Johnson. Pelletier conducted and the operas were produced under the direction of Thaddeus Wronski. The St. Louis Grand Opera Company, Guy Gottermann, director, officially dedicated Convention Hall in the new $6,000,000 Municipal Auditorium with a series of operas which included ''Turandot,'' ''Tristan and Isolde,'' ''Tannhaeuser'' and ''Faust.'' The Cosmopolitan Opera Association put on a week of opera in Washington, D. C. during January. The San Carlo continued its indomitable existence with a 35-week tour.

ORCHESTRAS

Small Orchestras and Their Concerts.—A deluge of small orchestras evolved during the year, orchestras scattered throughout the country, each giving a small number of concerts through the year, all promoting the cause and course of music. Some of these orchestras were quite new, others were older established orchestras sustained by the added impetus given to music by the Federal Music Project. Among those which maintained short series of concerts were the El Paso Symphony Orchestra, H. Arthur Brown, conductor; the Philadelphia Chamber String Sinfonietta, Fabien Sevitzky, conductor; the New York Women's Symphony Orchestra, Antonia Brico, conductor; The Duluth Symphony Orchestra, Paul Lemay conductor; the Beethoven Symphony Orchestra of Bethlehem, Penn.; the Trenton, N. J., Symphony Orchestra; the National Orchestral Association of New York City; the Harrisburg Symphony Orchestra, George Raudenbush conductor; the Buffalo Philharmonic Orchestra, Lajos Shuk conductor; the Syracuse Symphony Orchestra, André Polah conductor, and a large number of others. A number of well established organizations presented seasons of concerts which were shorter than those of the orchestras in the principal musical centers, yet which were extended enough to meet every demand of the audiences available. These included the San Francisco Orchestra, with Pierre Monteux as director, which presented a series of 10 concerts on Fridays and Saturdays, as well as concerts for young people and three other concerts at the University of California. This twenty-fourth season included appearances of Otto Klemperer and Ernest Schelling as guest conductors. The Minneapolis Symphony Orchestra, with Eugene Ormandy as conductor, managed a good series which included eminent soloists and a performance of the first act of ''Die Walküre.'' The Richmond Symphony Orchestra in its fourth season, with Wheeler Beckett as conductor, gave concerts during a season of about three months, and presented six junior concerts in addition to the regular series. The Kansas City Philharmonic under the direction of Karl Krueger gave ten pairs of regular concerts, and others for young people. The Los Angeles Philharmonic again gave its usual concerts, enlisting Arnold Schönberg as guest conductor in March.

Extended Concert Series.—The most extended series of concerts were as usual confined to the largest cities. The National Symphony Orchestra of Washington, D. C., Hans Kindler, conductor, presented a series of 30 concerts and went on tour in December. A series of summer outdoor concerts in the capitol included 12 concerts in a six-week period under guest conductors Brico, Harmati, Ganz and others. The Portland Symphony Orchestra, William van Hoogstraten, conductor, did a series of 24 concerts at the San Diego Exposition in addition to other appearances. The St. Louis Symphony Orchestra, Vladimir Golschmann conductor, presented during their fifty-sixth season 18 pairs in their regular series, 10 children's concerts, and several concerts with the Monte Carlo ballet. The Cincinnati Symphony Orchestra, Eugene Goossens, conductor, went through its forty-first season with 16 pairs of regular concerts, eight performances of four Wagnerian operas, some concerts with the Monte Carlo Ballet Russe, and five concerts for young people. The Chicago Symphony Orchestra, now in its forty-fifth season, went through its usual series of concerts, with Frederick Stock in his thirty-second year as conductor. Stock now has the longest tenure on record as an American symphony orchestra conductor. Next in years of continuous service is Stokowski, who has been at Philadelphia since 1912. His orchestra this year secured Fritz Kreisler as soloist, the first time since 1927 that Kreisler has appeared with orchestra. Stokowski conducted 47 concerts in the season of 28 weeks. Other conductors included Alexander Smallens who led the performance of Mussorgsky's ''Boris Godunoff,'' Beecham, Molinari, Iturbi, Ormandy, Reiner, Golschmann, Janssen, Kindler and Klemperer. The Philharmonic Symphony Orchestra in New York, in the ninety-fourth season of the Philharmonic which in 1928 absorbed the New York Symphony, was heard under Otto Klemperer, Bruno Walter, Werner Janssen, and, idol of its audiences, Toscanini. In addition to the regular concerts, a group from the large orchestra performed under Hans Lange as the Philharmonic Symphony Chamber Orchestra, giving five concerts for the benefit of Bennington College. In the course of these concerts, Mr. Lange arrayed five centuries of chamber music, all historical music documents worth hearing.

The Boston Symphony Orchestra, under Serge Koussevitsky, marked the fiftieth year of its visits to New York. W. J. Henderson wrote: ''We hope it will never cease to visit us, for its ten concerts here are an essential enlargement of our musical experience.'' Olin Downes said of it: ''A Stradivarius orchestra, if ever there was one.'' The anniversary was marked by performances of Beethoven's first and ninth symphonies on Nov. 21 and 23, with the Schola Cantorum chorus assisting. The Boston Orchestra marked the Bach-Handel 250th anniversary with a festival which was spread out over a number of concerts between April 19 and May 5. Igor Stravinsky came as guest conductor in three concerts of his own works on March 14, 15, and 16, and included in these the American premiere of his ''Persephone.'' Adrian Boult came as guest conductor for two concerts in January.

The Cleveland Orchestra, Artur Rodzinski, conductor, did a series of 18 programs (double performances), played for four operas including ''Rosenkavalier,'' gave 14 children's concerts and a series of popular programs under Rudolph Ringwall, now in his tenth year as associate conductor. The Cleveland Orchestra did the American first performance of Vaughan Williams's new Symphony in F minor in December.

Other Concert Series.—The Detroit Symphony Orchestra of which Ossip Gabrilowitch is the regular conductor had José Iturbi for substitute conductor in the fall because of Gabrilowitch's illness. The Rochester Philharmonic, the Birmingham Civic Symphony Orchestra and the Dallas Symphony Orchestra were others maintaining seasons of concerts.

FESTIVALS

Rochester.—The annual festival of American music held at the Eastman School of the University of Rochester from April 2-5 included performances of Robert R. Bennet's ''Endymion'' for chorus, orchestra, soloists and ballet, Deems Taylor's ''Circus Day'' in ballet form, Karl Eppert's ''Symphony of a City'' and a new orchestral work by Bernard Rogers. Howard Hanson was director of the festival, and groups sharing in it included the Eastman School Chorus and Orchestra, and the Rochester Civic Orchestra.

Bach-Handel Anniversary Festivals.—April saw the Bach annual festival in Reading, Penn., as well as the special observance of the 250th Bach-Handel anniversary in Boston. In May there was the Ann Arbor Festival which included the first public performance of ''Three Songs from Drum Taps'' for chorus, baritone and orchestra by Howard Hanson, set to Walt Whitman's verses. A two-day Bach Festival took place on June 7-8 at the Conservatory of Music of Baldwin-Wallace College in Berea, Ohio.

Worcester.—The seventy-sixth Worcester Festival began on Sept. 30, and continued with six programs through a week. Albert Stoessel conducted the Festival chorus and orchestra which took part. Lerch, Meisle, Jagel, Huehn, Levitzki, and Flagstad were included among the soloists. The deficit of $1,500 incurred this year has necessitated a shift of policy toward lighter programs for the next Festival.

The Berkshire Symphonic Festival, Henry Hadley, director, was held in August. An orchestra of 85 and the Berkshire Musical Association Chorus and soloists took part.

COMPOSERS

The League of Composers exchanged two programs with the French Triton Society and with the Italian Concerti di Primavera. It also commissioned, for the season 1935-36, works by Achron, Copland, McPhee, Ornstein, Quincy Porter and William Grant Still.

Five one-man concerts of music by American composers were begun at the New School for Social Research in October to give a survey of the creative work of the last ten years in the various fields of composition, the composers represented being Aaron Copland, Roy Harris, Walter Piston, Roger Sessions and Virgil Thomson.

In April the announcement was made of the awarding of a prize of $1,000 from the Paderewski Fund to Allan Arthur Welman of Chicago for the best symphonic work submitted in 1934.

Aaron Copland was appointed as lecturer on musical composition at Harvard University.

Sibelius programs were presented throughout the year in honor of the seventieth birthday of the composer. Schelling's ''Victory Ball,'' was mounted as a ballet in August at the Hollywood Bowl. Schönberg's Suite for String Orchestra was performed by the Philharmonic Symphony early in October. This new work of the German composer, now resident in America, shows the return in some degree of an ultra-modernist to the past. Nicolas Berezowsky's new string quartet was played by the Stradivarius Quartet in March at Harvard University. Gruenberg's Serenade for orchestra was done by the Chicago Symphony Orchestra under Stock in April. Virgil Thomson's Mass for chorus of women's voices and percussion instruments was done in April in New York City by the Adesdi Chorus.

The death of Charles M. Loeffler in May lost to American music a composer of distinction and genius.

THE THEATRE

By Brooks Atkinson

Dramatic Critic, *The New York Times*

GENERAL

A Good Year.—In comparison with recent experiences 1935 was a good year in the theatre. Although the stage was still operating on a reduced scale and probably will never return to the extravagance of the Twenties, good plays were fairly numerous, productions were of high standard and people were glad to attend the theatre again.

The Pulitzer Prize went to Zoë Akins's ''The Old Maid,'' a dramatization of Edith Wharton's novel of the same title about life in New York a century ago. Miss Akins had made a good adaptation of a moving story, and the acting of Judith Anderson and Helen Menken in the leading parts was stirring, but the award of the prize to an adaptation aroused considerable criticism in view of several good original plays which had appeared in the same theatrical season, that is, from September, 1934 to April, 1935.

THE AMERICAN DRAMA

"Winterset."—One of the most notable American plays for 1935 was Maxwell Anderson's verse tragedy, ''Winterset.'' Having written in verse of Queen Elizabeth, Mary of Scotland and George Washington, Mr. Anderson finally attacked the problem of making dramatic poetry out of a contemporary American theme, and succeeded with a cast that included Burgess Meredith and Richard Bennett.

"The Petrified Forest."—Many of the established American dramatists were represented during the year. Robert E. Sherwood's ''The Petrified Forest,'' with Leslie Howard in the leading part, was a discursive melodrama about crossroads life in the West, with a good deal of comment on current affairs.

"First Lady."—George S. Kaufman and Katherine Dayton collaborated on a satirical comedy about Washington society, ''First Lady,'' in which Jane Cowl appeared.

"Dead End."—Sidney Kingsley, who had won a Pulitzer Prize for ''Men In White,'' wrote in ''Dead End'' a realistic and biting social study of street gangs in the New York slums.

"Parnell."—One of the most successful American plays of the season was Elsie Schauffler's study of ''Parnell,'' which appeared on the stage about three weeks after her death. Since it was her first play to reach the New York stage her tragic death during rehearsals was all the more poignant.

"Remember the Day."—In ''Remember The Day,'' Philo Higley and Philip Dunning wrote a nostalgic and compassionate little drama about a school boy who fell in love with his teacher. Frankie Thomas, Jr., who once appeared in ''Wednesday's Child,'' played the leading part.

Other Plays.—Among other American plays of the year were: ''On Stage'' by Benjamin M. Kaye, a metaphysical improvisation about a playwright's workshop problems; ''Achilles Had a Heel'' and ''Tapestry In Gray,'' both by Martin Flavin, the one being a symbolic play with Walter Hampden in a black face rôle, and the other a psychiatrical study in more than 50 scenes with Elissa Landi in the chief part; ''Mulatto,'' by Langston Hughes, a melodrama of race prejudice in the South; ''Times Have Changed'' a study of family solidarity which Louis Bromfield adapted from a French play by Edouard Bourdet; ''De Luxe,'' a play of degenerate Americans in Paris by Louis Bromfield and John Gearon; ''If This Be Treason,'' a peace drama by Reginald Lawrence and John Haynes Holmes; ''Petticoat Fever,'' Mark Reed's farce in which Dennis King appeared; ''Kind Lady,'' a horror play by Edward Chodorov with Grace George in the leading part, and ''How Beautiful With Shoes,'' a lyric adaptation of Wilbur Daniel Steele's short story, dramatized by Mr. Steele and Anthony Brown—Sidney Howard attempted without much success to adapt Humphrey Cobb's war novel, ''Paths Of Glory,'' for stage production; and Philip Barry's ''Bright Star,'' which was a discussion of ideals in love and politics, was also a failure.

SOCIAL AND POLITICAL DRAMA

Clifford Odets.—The social and political drama made what amounts to sensational progress during the year. Clifford Odets, a Group Theatre actor, was the author of two long plays and two one-act plays which were produced during the year and which at once put him high in the ranks of serious and promising dramatists. His first play was a one-act drama of a taxicab drivers' strike meeting, ''Waiting For Lefty'' which quickly won a reputation. Shortly afterwards the Group Theatre produced ''Awake and Sing,'' a full length drama of a Jewish family living in the Bronx and a vigorous piece of work which had a long run. Then Mr. Odets wrote another one-act play, ''Till The Day I Die,'' which showed how the revolutionists were keeping their lines intact in Nazi Germany. He concluded a busy season with an impressionistic study of the American middle class in dissolution, ''Paradise Lost,'' which stirred up the most heated discussion of the year.

Theatre Union.—In Fourteenth Street, where the Theatre Union had become established, the principal plays of the year were Albert Maltz's ''Black Pit,'' a drama of life in the coal mining fields; ''Let Freedom Ring,'' Albert Bein's drama of mill workers in the South, and ''Mother,'' Bert Brecht's adaptation of a novel by Gorky, produced as a stylized primer to educate the masses in the technique of revolution. ''Black Pit'' had a long run. After a disastrous preliminary period on Broadway, ''Let Freedom Ring'' settled down to profitable houses in Fourteenth Street.

"Panic."—One of the most interesting experiments of the year was the staging of Archibald MacLeish's ''Panic,'' a verse drama about economic disaster, put on for a few performances by the Phoenix Theatre.

"Squaring the Circle."—From Russia came a burlesque of Soviet dialectic, Valentine Katayev's ''Squaring the Circle,'' which had had a hilarious career in Russia and which amused audiences for several months here in Eugene Lyons's adaptation.

AMERICAN COMEDIES

The most popular of the unpretentious American comedies were ''Three Men On a Horse,'' a race track yarn by John Cecil Holm, and ''Boy Meets Girl,'' another Hollywood cartoon, by Bella and Samuel Spewack. George Abbott staged both of these comic shows.

ENGLISH PLAYS

"Victoria Regina."—As usual, many of the best plays of the year came from England. Laurence Housman's ''Victoria Regina,'' which failed to secure the censor's license in England, provided Helen Hayes with one of her grandest parts and was the leading dramatic success at the end of the year.

''Escape Me Never."—Elisabeth Bergner, the German actress, repeated in New York the brilliant success she had had in England in Margaret Kennedy's ''Escape Me Never,'' a sequel to ''The Constant Nymph.''

"Pride and Prejudice."—Helen Jerome's adaptation of *Pride and Prejudice* restored Colin Keith-Johnston and Adrianne Allen to America and drew enthusiastic audiences.

J. B. Priestley was represented by two plays: ''Laburnum Grove,'' a comedy about counterfeiting which ran for several weeks, and ''Eden End,'' a drama of provincial England which failed.

Coward, Van Druten and Wooll.—Although Noel Coward's ''Point Valaine'' had a cast that included Alfred Lunt, Lynn Fontanne and Osgood Perkins it did not succeed. John van Druten was also represented by two plays: ''Flowers of the Forest,'' an anti-war play in which Katharine Cornell and Burgess Meredith played, and a slight comedy about a popular novelist, ''Most of the Game.'' Neither play was a success. Toward the end of the year Edward Wooll's melodrama, laid in an English courtroom and entitled ''Libel,'' had a cordial reception with a cast that included Colin Clive, Wilfred Lawson and Ernest Lawford.

REVIVALS

The year included several revivals: the Theatre Guild's romping production of ''The Taming of the Shrew'' with the Lunt and Fontanne in the chief parts; Nazimova's remarkable revival of Ibsen's ''Ghosts''; Eva Le Gallienne's revival of Ibsen's ''Rosmersholm; Philip Merivale and Gladys Cooper in ''Othello'' and ''Macbeth'', and Tallulah Bankhead's revival of ''Rain'' in the part Jeanne Eagels had made famous. After a memorable career of five years, during which he travelled all though the country, Richard B. Harrison returned to Broadway as ''de Lawd'' in ''The Green Pastures,'' aroused the same affectionate enthusiasm, and then died while the play was still stirring the hearts of humbled audiences.

FOREIGN PLAYS

From France came a translation of André Obey's amusing Biblical fantasy, entitled ''Noah,'' beautifully played by Pierre Fresnoy. Although his acting was admired the play did not succeed.

The most notable foreign language importation was the Moscow Art Players, a group of emigré Russians led by Michel Chekhov in Gogol's ''The Inspector General'' and other plays.

MUSICAL PLAYS

Of the musical plays the most distinguished was George Gershwin's folk opera version of ''Porgy,'' known as ''Porgy and Bess''; it was put on by the Theatre Guild to the applause of music critics. The two most popular Broadway shows were ''At Home Abroad,'' a revue in which Beatrice Lillie appeared, and ''Jubilee'' by Moss Hart and Cole Porter with Mary Boland in the chief part. After rebuilding the Hippodrome and rehearsing for about three months Billy Rose managed to marry musical comedy to the circus in a sentimental and spectacular show entitled ''Jumbo'' which played to enormous houses.

At the close of the spring season the Theatre Guild departed from routine long enough to produce a Left Wing musical revue, ''Parade,'' which presented Jimmy Savo as its star. George White produced a new edition of the ''Scandals,'' and Sigmund Romberg was represented by ''May Wine'' with a book and lyrics by Frank Mandell and Oscar Hammerstein II.

MOTION PICTURES

By Frank S. Nugent

Motion Picture Reviewer, *The New York Times*

GENERAL

In retrospect, 1935 was a tranquil year for the cinema. There were alarums and excursions, but none so violent as it had experienced, with annual regularity, since the screen was converted to sound. Back-tracking over recent history, 1932 was the year in which the picture industry acquired reasonable mastery over the talking film; financial and labor troubles plagued the producers in 1933; it was the Legion of Decency and the crusade for clean films that bothered it in 1934. But during 1935, Hollywood was comparatively free from worry.

It was a year of prosperity for producers and exhibitors. Theatre receipts throughout the nation were from 30 to 40 per cent higher than they had been in 1934. The studios reflected this financial sunshine by enlarging their plants, restoring ''location trips'' to their schedules and writing out million-dollar production budgets without turning color. The quality of pictures was noticeably improved, both from a moral and an artistic standpoint.

FOREIGN CENSORSHIP

If these elements were favorable, they must be counterbalanced by a noticeable tightening of the numerous censorships which tend to limit the screen's expression. While pictures continued to show the influence of the Legion of Decency in this country, American film producers were hampered to a greater extent than ever by foreign censors. Threats of reprisal by other governments caused studios to defer production of two outstanding novels—Humphrey Cobb's ''Paths of Glory'' and Franz Werfel's ''Forty Days of Musa Dagh.'' Hungary banned ''I Cover the Waterfront,'' ''Caravan'' and ''The Merry Widow.'' Cuba objected to ''Rumba'' on the ground that it ridiculed the national character. China barred ''Lives of a Bengal Lancer,'' which described British military activities on the Indian frontier. Budapest banned ''Whoopee'' and ''Rain.'' Sydney, Australia, banned ''G-Men'' and ''Let 'Em Have It'' and deleted several seemingly innocuous scenes from ''Alice Adams.'' Copenhagen refused to admit the Shirley Temple film, ''Little Miss Marker.'' Germany barred ''Trial of Mary Dugan'' and ''Ladies of the Big House,'' among other films about crime. It also banned Charlie Chaplin's ''The Gold Rush'' as contrary to Nazi philosophy. Norway frowned upon ''Wild West'' films because ''they were developing the gangster theme.''

Hollywood's difficulties abroad reached a climax when Spain decided that ''The Devil Is a Woman'' was an insult to its civil guard and threatened to exclude all Paramount films unless the studio removed the picture from world circulation. Paramount made a futile fight against this drastic pronouncement and finally surrendered. The film was withdrawn and destroyed; it had cost about $750,000. As the year ended there were indications that the studios, frightened by the gravity of this incident, might unite in defensive action against oppressive foreign censorship.

DOMESTIC CENSORSHIP

Censorship at home, aside from the industry's self-regulating machinery and the moral suasion of the clean films crusaders, was largely a matter of avoiding the displeasure of special interests. An outstanding film, ''Black Fury,'' dealing with labor troubles in the Pennsylvania coal mines, underwent drastic revision at the behest of the coal operators. Another, ''Oil for the Lamps of China,'' was considerably more sympathetic to the oil interests than the novel from which the film was drawn.

The film companies showed their fear of censorship and boycott by plunging into the past for their materials. The costume and period photoplay, culled for the most part from the shelves of the library, predominated among the major enterprises of Hollywood. Among the more lavish films of the year were ''David Copperfield,'' ''A Tale of Two Cities,'' ''A Midsummer Night's Dream,'' ''Captain Blood,'' ''Mutiny on the Bounty,'' ''Clive of India'' and ''Lives of a Bengal Lancer.''

Biography, generally a safe field for the cinema, had to be approached with more care during 1935. Recalling the libel suits that followed Metro-Goldwyn-Mayer's production of ''Rasputin and the Empress,'' Hollywood decided that discretion was the better part of accuracy in transferring the lives of the great and near-great to the screen. The studios displayed unusual eagerness to consult the wishes of descendants, however remote, before proceeding with their biographical films.

COLOR FILMS

An interesting event of the screen year was the appearance of the first feature-length photoplay filmed in the new three-component color process developed by Technicolor. The picture, ''Becky Sharp,'' employed the new process with marked success but, except for its color values, was not regarded as an exceptional film. Hence it was an inconclusive argument for color's superiority over black and white photography. Another Technicolor film ''Trail of the Lonesome Pine,'' was begun later in the year and, apparently, has satisfied its producers, for several other color pictures have been scheduled for 1936. ''Becky Sharp'' must, then, be regarded as a definite landmark in the history of the motion picture.

MUSICAL FILMS

Equally significant in 1935 was the cycle of operatic films inspired by the success (in 1934) of Grace Moore's ''One Night of Love.'' Among the operatic singers who were brought to the film public during the year were Lawrence Tibbett, Lily Pons, Gladys Swarthout, Nino Martini, and Mme. Ernestine Schumann-Heink. Miss Moore made another successful appearance, too, in ''Love Me Forever.'' Behind the operatic cycle came a host of other musical films which employed several well-known radio singers, crooners, and ''blues'' experts. The trend of these musicals was away from the spectacular, mass-formation mood of former years, and towards a welcome note of intimacy and humor.

SHAKESPEARE IN PICTURES

In the nature of an anti-climax was Warners' careful and expensive film version of Shakespeare's ''A Midsummer Night's Dream.'' Directed by Max Reinhardt, with Mendelssohn's score and a cast which included most of the Warner stars, the production was heavy-handed and so literal that the charm of the fantasy was lost. It was, however, a daring enterprise, made in the almost certain assurance of a considerable financial loss, and it yet may lure other producers into a film revival of Shakespeare. There is some evidence of that already. Metro has begun a film of ''Romeo and Juliet'' for release next year and, in England, Elisabeth Bergner is making ''As You Like It.''

THE G-MAN THEME

One of the interesting topical cycles was the series of G-man films which reflected the sudden public interest in the activities of the Department of Justice, particularly in tracking down kidnappers and public enemies. Warner Brothers, who began the gangster film cycle five years ago with ''Public Enemy,'' set this one in motion with ''G Men.'' From it stemmed a number of melodramas, the more successful being ''Public Hero No. 1,'' ''Show Them No Mercy'' and ''Men Without Names.''

FOREIGN FILMS

The English Product.—England's threatened challenge to Hollywood's domination of the world film market was carried out with greater success than had been expected. During 1935 the British studios made surprising advances in technique. Importing Hollywood camera men, technicians, directors and players to leaven their English casts, they produced several photoplays which were the equal, in every respect, of the American product. Gradually they have begun to train their own technicians in Hollywood methods and already a few English players—Robert Donat, Merle Oberon and Madeleine Carroll notably—have become extremely popular with American audiences. Alfred Hitchcock, director of ''The Thirty-Nine Steps'' and ''The Man Who Knew Too Much,'' was recognized as a master of melodrama and as a directorial stylist of brilliance and wit.

Russia.—From other foreign countries came a number of films which rivalled the best of the Hollywood product. The Russians applied the technique of cartoon animation to puppets in ''The New Gulliver.'' In ''Chapayev,'' ''Youth of Maxim'' and ''Peasants,'' they used the cinema powerfully for dramatizing significant phases of recent Russian history.

France and Germany.—The resurgence of the French film industry was particularly notable. There was a high order of merit in such Gallic works as "La Maternelle," "Crime et Chatiment," "Le Dernier Milliardaire," "Maria Chapdelaine" and "Liliom." Perhaps the best German film to reach here was "The Making of a King," with Emil Jannings.

NEWSREELS

By far the most significant development in the newsreel field during the year was the appearance of "The March of Time" series. Produced by some of the owners of *Time Magazine* and patterned, in a sense, after a radio feature of the same name, "The March of Time" became the editorial page of the newsreel. Dramatizing events of the news and striving, generally, to interpret them impartially, the two-reel films proved to be both informative and exciting. Occasionally their interpretation of news events was so opinionated as to provoke state censors to delete scenes and episodes, but, on the whole, public reaction was favorable.

Sensing public interest in affairs of government, particularly in those relating to the New Deal, the general newsreel cameramen recorded each new development, usually with a footnote in the form of interviews with advocates and opponents of the projects and policies in question. This practise, while unobjectionable in itself, led to some abuses, for it permitted the newsreel editors, or their owners, to give more prominence to one side of the argument than to the other, or to have the defense represented by vigorous counsel while singling out a "weak sister" for the opposition point of view. While expression of opinion is desirable on the editorial page of a newspaper, it is discouraged in the main in the news columns. Ostensibly being objective reflections of news events, the newsreels, as such, have no editorial page, and there were protests last year from the more discerning theatregoers that this newsreel editorializing was a violation of its implied code. In general, however, the newsreels continued to show increased intelligence, enterprise and skill in the gathering and editing of their material.

SCREEN PERSONALITIES

Shirley Jane Temple, 6 years old, became the most popular performer of the American screen, according to that most stern judge—The Box Office. On the basis of a survey by *Motion Picture Herald*, the ten biggest money-makers, *i.e.* most popular, among the stars were Mistress Temple, the late Will Rogers, Clark Gable, Fred Astaire and Ginger Rogers (as a team), Joan Crawford, Claudette Colbert, Dick Powell, Wallace Beery, Joe E. Brown and James Cagney. Greta Garbo received fewer votes than Joe Penner, and Charles Laughton was less popular than Hoot Gibson. Among the new screen names that came into prominence were Nelson Eddy, Eleanor Powell, Fred Stone, Robert Donat, Errol Flynn, Fred MacMurray, Luise Ranier, Freddie Bartholomew and Rosalind Russell.

OUTSTANDING PICTURES

The Times "Ten Best" List.—To select 50 outstanding films from the year's total (reviewed in *The New York Times*) of 495 pictures, of which 315 were English, would be reasonably simple and fairly reasonable. But the convention of "the ten best" must be observed and this was the list selected by *The Times*:

"The Informer."—This stirring film version of Liam O'Flaherty's novel of the Dublin slums was unrivalled in the 1935 cinema. It was recommended as much for its courage in telling the type of story which the commercial screen had disdained as for the excellence of its direction and cast. It was produced by Cliff Reid, directed by John Ford and magnificently performed by Victor McLaglen.

"Mutiny on the Bounty."—Out of the trilogy by Charles Nordhoff and James Norman Hall (*Mutiny on the Bounty, Men Against the Sea* and *Pitcairn's Island*), Metro-Goldwyn-Mayer made one of the most exciting of all adventure films. Handsomely photographed, of wide scope and endowed with an exceptional cast headed by Charles Laughton, the picture was produced by Irving Thalberg.

"The Thirty-nine Steps."—Alfred Hitchcock proved himself a masterly director with this original, literate and sinisterly entertaining melodrama of an international spy ring working in London. Mr. Hitchcock, whose previous film in 1935, "The Man Who Knew Too Much," had been hailed as an excellent melodrama, showed conclusively in the later picture a shrewdly stylized camera technique that was as distinctive as it was effective.

"Alice Adams."—Tenderness, humor and poignance were beautifully blended in this Booth Tarkington study of a frustrated girl in a small American town. Katharine Hepburn's performance was perfectly attuned to the theme and rivalled—some say surpassed—the work of any other actress during the year. The picture was produced by Pandro S. Berman and directed by George Stevens.

"David Copperfield."—All the superb caricatures of Dickens' novel came to life in this richly satisfying film version. Almost entirely dependent for success upon its cast, the picture was handsomely served by little Freddie Bartholomew as David, W. C. Fields as Micawber, Lennox Pawle as Mr. Dick, Edna May Oliver as Aunt Betsy and Jessie Ralph as Peggotty.

"Ruggles of Red Gap."—A heartwarming and delightfully comic version of Harry Leon Wilson's novel about the English gentleman's gentleman who found a personal meaning in the Declaration of Independence. The picture afforded Charles Laughton another of his lamentably few opportunities to play a comedy role. It added two unforgettable scenes to the screen's Hall of Fame: when Mr. Ruggles recited the Gettysburg Address, and when he made his brief and ineffectual attempt to leap over the garden fence.

"Sequoia."—Selected more for its superb photography and unusual subject matter than for its story values, this picture was the amazing account of the friendship between a deer and a puma. To go behind the scenes, one would have found trickery and illusion. But judging it for what it was on the screen, the film possessed lyric beauty. It was directed by Chester M. Franklin and photographed by Chester Lyons.

"The Scoundrel."—For cynical wit, this Ben Hecht—Charles MacArthur satire on the New York literati was superb, even though the authors marred their work by tossing in some bogus mysticism at the end. Noel Coward, in his first feature film, gave one of the year's outstanding performances. The picture was far from being a popular success and annoyed all sorts of persons.

"Lives of a Bengal Lancer."—Splendid and picturesque, this Kiplingesque account of frontier fighting around Khyber Pass was a glorified adventure story, but a handsome specimen of movie-making. Next to "Mutiny on the Bounty" it was the year's most virile film. Henry Hathaway, its director, was raised by it from comparative obscurity to the front ranks of the directors.

"Les Miserables."—The greatest man-hunt in literature was perfect film material and the producers of the film version proved themselves worthy of it. Charles Laughton, mentioned for the third time, contributed a superb portrait of Javert, the eternal policeman, even admitting that he did not conform to the physical description of the novel's Javert. Frederic March was scarcely less impressive as Valjean.

National Poll of Critics' List.—A national poll of critics, conducted by *Film Daily*, a trade publication, produced this composite list of the "ten best": "Lives of a Bengal Lancer," "Roberta," "Les Miserables," "Anna Karenina," "David Copperfield," "Broadway Melody of 1936," "Naughty Marietta," "Ruggles of Red Gap," "Top Hat" and "The Informer." This list was as of November. Consequently the critics had not seen "Mutiny on the Bounty," which otherwise was almost certain of inclusion and probably will appear on next year's list.

ALARUMS AND EXCURSIONS

California Tax Situation.—Having mentioned earlier in this summary the ''alarums and excursions'' which the film industry had experienced during the year, it might be well to note a few. Early in the year, the California State Legislature threatened to pass a state income tax amounting, roughly, to one-third of the Federal income tax. The picture industry arose as a unit and threatened, in return, to move to New York, to New Jersey, to Florida or to Delaware if the tax bill were enacted. The bill was and the industry remained where it was. The only prominent excursion was that made by William Randolph Hearst who said he could not bear the tax and would have to transfer himself and his properties elsewhere. Nothing came of the threat.

The Motion Picture Academy of Arts and Sciences, dominated by the producers and long regarded as a company union by Hollywood's actors, writers and directors, was threatened with disruption during the year by the rapid development of the Screen Writers' Guild and, as the year ended, by the Directors' Guild. Members of the guilds dropped out of the Academy and, promising to work together, sought to compel producers to meet their long-ignored demands. Protection as to contracts, non-interference by producers, the right to select their stories and scripts —these were a few of the salient ''we wants.''

New York Film Critics' Awards.—Another blow, admittedly less shattering, was struck at the Academy when New York's newspaper film reviewers decided to band together and award their prizes yearly to the best picture, best performance, best direction and best script. Dissatisfaction with the Academy's annual award was the chief reason for the critics' step. The New York Film Critics first awards follow: Best picture of 1935, ''The Informer''; best male performance, Charles Laughton; best performance by an actress, Greta Garbo in ''Anna Karenina''; best direction, John Ford of ''The Informer''; best script, ''The Scoundrel,'' by Ben Hecht and Charles MacArthur.

PROPAGANDA

Because it is one of the most persuasive of all media, the film is a perfect propagandizing instrument. In 1935 it was used, and abused, quite shamelessly. There has been mention already of the newsreel's use of it, of the producers' deliberate catering to special interests in the presentation of films dealing, even remotely, with labor troubles. A vast body of evidence might be drawn from the year's film store to show a deliberate attempt to inculcate a jingoistic, militaristic spirit. This was as true of Hollywood as of Berlin, London and Moscow. There were no pictures dedicated to the ideal of world peace, none resembling ''All Quiet on the Western Front'' and others of that ilk. The producers, admitting what the evidence compelled them to accept, argued that it was idle to make peace films when headlines shrieked of impending, and actual, wars. Public interest, they added, was with war. And theirs was the obligation—a dollars and cents one—of suiting their films to the public taste.

As national propaganda, the motion picture was not as overworked in 1935 as in 1934. Even Moscow abated its barrage of films glorifying the Soviet and turned to its classics for film material; generally there was a class angle, some political motivation, but the approach was far less blatant. Germany, on the other hand, was ruggedly insistent upon sprinkling every script with Nazi philosophy.

NECROLOGY

The death of Will Rogers was the great tragedy of the year in the screen world, just as it was in the many other worlds where Mr. Rogers had a special and an honorable place. A philosopher in homespun, a genial humorist, he had endeared himself to filmgoers of city and farm, of high and low degree, of every shade of political opinion. His last picture, "In Old Kentucky," released after his death, was of the gentlest humor. The pleasure it, like so many of his films, gave to the world was the finest monument to his memory. Among the other film deaths in 1935 were Thelma Todd, Junior Durkin and Gordon Westcott.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Arts and Letters, 633 West 155th St., New York City.
American Academy in Rome, 101 Park Ave., New York City.
American Ceramic Society, 2525 N. High St., Columbus, O.
American Federation of Arts, The Barr Bldg., Faragut Sq., Washington, D. C.
American Fine Arts Society, 215 W. 57th St., New York City.
American Institute of Architects, 522 Fifth Ave., New York City.
American Numismatic Society, 156th St. and Broadway, New York City.
American Scenic and Historic Preservation Society, 287 Convent Ave., New York City.
Archaeological Institute of America, New York University, University Heights, New York City.
Architectural League of New York, 115 E. 40th St., New York City.
Art Alliance of America, 65 E. 56th St., New York City.
Art Center, Inc., 65 E. 56th St., New York City.
Artists Guild, 480 Lexington Ave., New York City.
Fine Arts Federation of New York, 215 W. 57th St., New York City.
Graphic Arts Board of Trade, 291 Broadway, New York City.
Hispanic Society of America, the, 156th St., West of Broadway, New York City.
Municipal Art Society of New York, 119 E. 19th St., New York City.
National Academy of Design, 175 W. 109th St., New York City.
National Assn. of Women Painters and Sculptors, 42 W. 57th St., New York City.
National Institute of Arts and Letters, 633 W. 155th St., New York City.
National Sculpture Society, 115 E. 40th St., New York City.
New York Society of Architects, 101 Park Ave., New York City.
New York Society of Craftsmen, 65 E. 56th St., New York City.
Society of Illustrators, 65 E. 56th St., New York City.
Society of Independent Artists, Inc.; 54 W. 74th Street, New York City.

DRAMA

American Society of Composers, Authors and Publishers, 1501 Broadway, New York City.
Drama League of America, Hotel Barbizon Plaza, 58 th St.and Sixth Ave., New York City.
Dramatist Guild, 9 East 38th St., New York City.
English Folk Dance Society, 159 E. 33rd St., New York City.
Episcopal Actors Guild, 1 E. 29th St., New York City.
Federation of Motion Picture Industry of America, 1440 Broadway, New York City.
International Theatrical Play Bureau, 223 W. 46th St., New York City.
Motion Picture Directory Co., 1071 Sixth Ave., New York City.
Motion Picture Producers and Distributors of America, Inc., 28 W. 44th Street, New York City.
Theatre Guild, Inc., 243 W. 52nd St., New York City.

MUSIC

American Guild of Organists, 217 Broadway, New York City.

Cantors Registry, 95 St. Marks Place, New York City.

Chorus Equity Assn. of America, 110 W. 47th St., New York City.

Grand Opera Choral Alliance, 678 Eighth Ave., New York City.

Jewish Theatrical Guild, 1560 Broadway, New York City.

National Bureau for the Advancement of Music, 45 W. 45th St., New York City.

National Music League, 113 W. 57th St., New York City.

Opera and Drama Society, 1730 Broadway, New York City.

Oratorio Society of New York, 113 W. 57th St., New York City.

Philharmonic-Symphony Society of New York, 113 W. 57th St., New York City.

DIVISION XXVII

EDUCATION

ELEMENTARY EDUCATION

By Frank W. Hubbard

Associate Director of Research, National Education Association

GENERAL

The two limits imposed on the present statement are ''elementary education'' and ''the 1935 developments.'' Deviations beyond these prescribed bounds may be explained by the inconvenient habit of educational progress to resist arbitrary classification.

During 1935 the major developments reported in previous issue of The American Year Book continued both to please and to perplex, depending upon the point of view. The general improvement of industry and business, both in actuality and in optimism, tended to ease the financial restrictions upon education. In many instances, services such as kindergartens, school nurses, and special teachers which were eliminated during the depression years, have been restored. Teachers salaries returned to pre-depression levels in an encouraging number of school systems. So-called economy in the purchase of textbooks, supplies, and school equipment was not so widely practised as in previous years. But in spite of the fact that tension in financial matters has been relieved, the two fundamental questions in educational finance are far from satisfactory solution: How best can local, state, and national sources be tapped for educational services? How can public funds for education be distributed so as to provide each child with reasonable educational opportunity?

In reporting developments of 1935 the following sections will present briefly certain important areas or movements in elementary education, cite one or more specific cases or illustrations, and refer to one or more publications where further details may be obtained.

VITALIZED CURRICULUMS

One promising legacy of the depression years has been the increased interest in current social problems and their cultural, political, and economic roots. Curriculums, particularly courses in the social studies, have been revised to introduce recency and reality into the classroom. One of the chief impediments in this new social study is the shortage of properly graded and thoroughly trustworthy instructional materials. Various groups have attempted to meet this problem by issuing pamphlets, bulletins, and other paperback publications. Many of these booklets have been of most value at the secondary level but the photographic magazine of modern problems entitled *Building America* (published by the Society for Curriculum Study) has been useful at the elementary level. The issues in the 1935 series were centered around the topics Food (October), Men and Machines (November), and Transportation (December). A special edition issued early in 1935 dealt with the topic of Housing.

HOME AND SCHOOL CONTACTS

For several years there has been widespread effort to improve the coordination between homes and schools. Obviously, without this cooperation (1) the child may be ''pulled and hauled'' (or even mauled) by adults acting upon different theories of child-rearing; (2) he may escape disciplinary restrictions by maneuvering parents and teachers into conflict, and (3) he may complete the elementary school without bringing home resources and aspirations into the school development of his personal talents.

During 1935 the movement to establish study groups for parents, particularly by parent-teacher associations, has been pushed vigorously. Visiting teachers and home-study teachers have increased in numbers. Perhaps most outstanding of the efforts to improve home-school coordination has been the development of better report cards. For years teachers have been satisfied to send home ''marks'' which often led to indignation meetings and disciplinary measures but seldom to helpful cooperation. The new reports are prepared in the form of letters, notes, or checklists which give details of the individual pupil's progress. An attempt to broaden the reports beyond the school subjects and to include other objectives of the school such as character, mental hygiene, physical health, and personal talents.

The trend is indicated in an article by Chester A. Pugsley entitled ''Do Schools Report to Parents in Terms of School Objectives?'' (*Educational Method*, October, 1935, pp. 15-20). An earlier publication contained a number of examples of the new emphasis in report cards: *New Developments in Pupil Report Cards* (Circular No. 4, May 1934; Educational Research Service, National Education Association).

INDIAN EDUCATION

In recent years novels and historical works have cited many facts about the condition and the treatment of the American Indian. The education of Indian children has been far from the brightest item of our national policy. A common practise was to remove young children from their homes and to place them in boarding schools where they might receive the doubtful benefits of the white man's education.

The present national administration has made an honest attempt to deal with the Indian more intelligently than ever before. Plans were made for construction during 1935 of at least 110 day schools. By February a dozen of the boarding schools had been closed or converted into day schools. At Burnhams, New Mexico, a Navajo community school was built through PWA funds and 10 to 15 similar schools were opened in March. At Pueblo, pupils utilized earth materials of their community in preparing paintings for an international exhibition of children's paintings. Progress has been made also in the secondary schools in adapting the educational program to the needs of individuals and of communities. Evidence of this progress has been presented during 1935 in issues of *School Life* (official organ of the Federal Office of Education) and in various publications of the Bureau of Indian Affairs, U. S. Department of the Interior.

FINGERPRINTING OF SCHOOL CHILDREN

Every year there are cases of persons who cannot be restored to their relatives because their identities are not known. Some of these are individuals who have been injured in accidents and others are victims of amnesia. Children who have been lost or kidnapped are more likely to be found if their identities can be established with certainty.

During 1935 J. Edgar Hoover, director of the Federal Division of Investigation, announced that supplies would be made available to local school boards which desired to record the fingerprints of children. High Schools in East Orange, N. J., Hyde Park, Mass., and Madison, S. D., as well as entire school systems, requested blank fingerprint cards. Service clubs and other adult groups also sent their records to Washington, D. C. These noncriminal records are placed in the Children's File of the United States Department of Justice. Despite every assurance of the proper care and use of these records, some educators have spoken out against subjecting children to a practise that has been associated with criminal identification. A similar argument might have been advanced at one time against intelligence tests because Binet's early work was with mentally deficient children. A brief statement by J. Edgar Hoover is available in the September 1935 issue (p. 2-3) of *School Life.*

PRE-SCHOOL AND PARENT EDUCATION

It is the general practise in the United States for children to begin formal schooling at six or seven years of age. Kindergartens for children of about five years enrolled close to 1,000,000 children in the prosperous days of 1929. Attempts at the formal education of children between the ages of two and four have been chiefly on an experimental basis. A major part of this so-called pre-school training is the education of parents with regard to the nature and the need of the young child.

In 1934, as a part of the Federal Emergency Relief Administration, educational programs were set up in 21 states for pre-school children and their parents. Through this program 1,200 leaders were gainfully employed and 28,000 parents and children were served. In 1935 the work was extended to 33 states and the District of Columbia. Most of the responsibility for organizing the work fell upon state departments of education aided in many instances by state health and library agencies. In the parent education aspects parent-teacher associations, churches, and women's clubs have been particularly active. If the work is to become an integral part of public education the inadequacies of present legislation must be remedied.

The general nature of the Federal efforts has been described from time to time in *School Life* (*e.g.,* January 1935, p. 99). State legislative problems in the field of early childhood have been dealt with during the year in *School Legislation Affecting Young Children* (NEA [National Education Association] Research Division) and *Legislation Concerning Early Childhood Education* (Federal Office of Education).

NEW FRONTIERS

Historians have written that the end of the American frontier came about 1880. Yet during the past few years shifts in the distribution of population have brought new frontiers into existence. Subsistence homesteads and Federal irrigation and power projects have raised administrative and financial problems with regard to the education of children.

In April 1935 some 600 persons sailed from Seattle, Washington, to create new homes in the Matanuska Valley of Alaska. School buildings and teachers have been provided under the general direction of the territorial superintendent of instruction. In other areas the problem has not been so simple. Officials of existing school districts have found that almost overnight new towns have sprung up around various Federal projects and that as many as 250 new pupils may ask to attend schools. During the school year 1934-35 almost 13,000 children were enrolled in the public schools near 148 Federal projects located in 17 states. Much of the territory upon which these people live is tax-exempt and contributes nothing to public school support. The situation has become critical in some areas and raises an unsettled question: Who should provide the educational facilities for the children of Federal employes residing on government property?

In the case of the subsistence homesteads the plans of the Federal authorities provide for an elementary school housing 250 children in each new community. In February one such school was reported as successfully operating near Alexandria, Va. (For further details consult the February and March issues of *School Life.*)

SCHOOL BUILDINGS

The center of pride in many a community is its school building. The number of new schools constructed in the past decade led critics to say that the country had too many costly buildings. Yet "The Nation's School Building Needs" (*Research Bulletin,* Vol. 13, No. 1; January, 1935), a 1934 survey by the NEA Research Division, revealed that additional building facilities were needed for almost 3,000,000 children. A similar study by the Federal Office of Education in December, 1934 showed that 12,793 building projects were needed. In March, 1935 a PWA survey resulted in a list of 28,262 needed school building projects. The actual shortage of school plants, aggravated during the depression by an almost complete cessation of new construction, has shown some improvement in 1935.

A significant factor in the advance was the participation of the Federal Government in schoolhouse construction. In August 1935 the status of non-Federal elementary-school building projects was as follows: 245 schools completed; 268 under construction, and 115 projects for which allotments had been made. Out of an estimated cost of about $95,000,000 for elementary school buildings completed or under construction the Federal Government had expended about $35,000,000. Several issues of *School Life* during 1935 summarized the Federal activities.

Another significant development in recent years has been the application of scientific lighting, heating, ventilation, and construction to school buildings. Examples of some of the possibilities and problems are dealt with in the January, 1935 issue of *The Architectural Forum,* School Reference Number.

SIGNIFICANT PUBLICATIONS

Issued late in 1934 and perhaps missed in last year's summary was the pictorial book *Willingly to School,* produced under the direction of Claire T. Zyve (Round Table Press, New York). Through excellent photographs and with the minimum of text this book reveals the program of the modern public elementary school. The educational and photographic artistry of the book has brought forth many expressions of approval.

A number of the yearbooks published during 1935 are of great concern to elementary education. The volume published by the Department of Superintendence (National Education Association) on *Social Change and Education* reviews the conflicting points of view as to the rôle of the school in the modern world. Instructional problems are dealt with in *Materials of Instruction* (Department of Supervisors and Directors of Instruction, NEA). The value of assemblies, clubs, and similar activities at the elementary-school level are dealt with in greater detail than at any time previously in *Socializing Experiences in the Elementary School* (Department of Elementary School Principals, NEA). The technics of educational diagnosis for the purpose of individual guidance have been discussed in great detail in *Educational Diagnosis* (National Society for the Study of Education). Those with historical interests will find much of value in *The Historical Approach to Methods of Teaching the Social Studies* (National Council for the Social Studies).

The historically-minded will also be grateful to Macmillan Company for granting permission for the reprinting of *Old-Time Schools and School-Books* (Peter Smith, New York). This volume is packed with pictures and texts illustrative of early American education.

Those who are not satisfied with the traditional forms of art expression will find stimulating articles in *Art Education Today* edited by members of the Fine Arts Staff at Teachers College, Columbia University. It is planned as an annual publication devoted to the problems of art education.

Research in the field of the teaching of elementary-school reading has been advanced by two published studies: *Visual Characteristics of Poor Readers* by Paul Fendrick (Contributions to Education, No. 656, Teachers College, Columbia University), and *The Auditory and Speech Characteristics of Poor Readers* by Guy L. Bond (Contributions to Education, No. 657, Teachers College, Columbia University). Gates has revised and enlarged his *Reading Vocabulary for the Primary Grades* which was originally published in 1926. Near the close of 1935 appeared the useful "Better Reading Instruction; A Survey of Research and

Successful Practise'' (NEA *Research Bulletin*, Vol. 13, No. 5; November, 1935).

The effect of different parent-child relationships upon the personality development of the child has been systematically explored in *Some Parent-Child Relationships as Shown in Clinical Case Studies* by Marian J. Fitz-Simons (Contributions to Education, No. 643, Teachers College, Columbia University). The evidence indicates clearly that many behavior difficulties of children are caused by parental attitudes and treatment. The study suggests that in many instances pupil behavior may be improved if the emotional conflicts and behavior of the parents can be improved. In a field closely related to that of the preceding study is one entitled *Parent Preference of Young Children* by Margarete Simpson (Contributions to Education, No. 652, Teachers College, Columbia University).

An analysis of the trends in the education of the young child has been made in *The School for the Child from Two to Eight* by Ilse Forest (Ginn and Company). The formal training of the primary period has been discussed in *The Education of Children in the Primary Grades* by John L. Horn and T. W. Chapman (Farrar and Rinehart).

Publications of the Federal Office of Education have contributed to the general field of elementary education, such as *Compulsory School Attendance Laws and Their Administration* (Bulletin, 1935, No. 4) and the reports on two important conferences held under the auspices of the Federal Office of Education: *Coordination of Effort for the Education of Exceptional Children* (Bulletin, 1935, No. 7) and *Fundamentals in the Education of Negroes* (Bulletin, 1935, No. 6).

The NEA Research Division has made two important contributions to the problems involved in the economic status of the teacher. The first of these, ''Salaries of School Employees, 1934-35,'' (*Research Bulletin*, Vol. 13, No. 2; March, 1935) revealed that the average salary paid city elementary teachers was from 9 to 17 per cent lower in 1935 than in 1931. In general the larger decreases in salary were imposed in the smaller communities. The second study, ''The Teacher's Economic Position,'' (*Research Bulletin*, Vol. 13, No. 4; September, 1935) was based upon 12 monthly income and expenditure records of more than 2,500 teachers. No previous study of the status of teachers had included such painstaking detail.

The steady flow of educational research and publications makes it difficult both for laymen and for professional workers to keep up with the tide. For this reason more than passing notice should be taken of the 1935 summaries provided through the *Review of Educational Research* prepared by the members of American Educational Research Association (February, ''Special Methods and Psychology of Elementary School Subjects''; April, ''Finance and Business Administration''; June, ''Psychological Tests''; October, ''The School Plant'', and December, ''Educational Tests and Their Uses'').

SECONDARY EDUCATION

By Philip W. L. Cox

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SOCIAL AND EDUCATIONAL ADJUSTMENTS

The year 1935 has been celebrated widely as the tercentenary of the foundation of the public high school in America. However much of romance there may be in the designation of the Boston Latin School, established by vote of the Town of Boston in April 13, 1635, as a public high school, there is more than a germ of truth to justify it. In the three hundred years that have elapsed, community consciousness of the scope and nature of leadership has broadened. The role of the ministry remains important, but the functions of leadership have come to belong also to the other professions, to inventors and technologists, to labor leaders and reformers, to editors, cartoonists and ''wise crackers.'' Indeed, modern American society recognizes that every citizen is, for good or for ill, potentially a leader; hence, a common integrating experience of school life under the direction of community agents is provided for all youths at public expense. Such a school experience provides also for differential training in accordance with native aptitudes and disabilities, social backgrounds, and vocational and avocational interests. In a word, we not only fear an illiterate leadership but also an uneducated citizenship; we desire not only to perpetuate learning but also to make individual culture universal. Hence, the pattern and aspiration of American secondary education in 1935 are that the school shall be wholly free, wholly democratic, free from sectarian or class or group control, and so conceived and so dedicated that the public interests in social stability and individual freedom may be reconciled and realized.

So rapidly and dramatically have social conditions changed through the three centuries since 1635, that the schools for adolescents and young adults that have succeeded the Latin School have been frequently in an unsettled state of revolutionary readjustment. The secondary school of 1935 is peculiarly in such a condition. Changes are taking place that are long overdue. Most of them have been urged on school boards, administrators, and faculties with indifferent success for two decades; they have been resisted by social tories and by conservative schoolmen; they are now taking place, clumsily and piecemeal and almost inadvertently, as a result of a heightened social consciousness that a dazed, dissatisfied, and restless generation of youth spells disaster for our society so far as it is democratic in form, realization, and aspiration.

Fascism, communism, war, revolutions, ''rabble rousing,'' military despotism, ''white terror,'' anti-minority frenzy, economic impasse, aggressive nationalistic imperialism—these things are little understood by the American people, but they are feared. Socially alert citizens everywhere wish to protect youth against the emotional orgies and bitter partisanships that are recognizable throughout the world. Selfish and unselfish motives are curiously intertwined to support educational efforts to foster in youth a sense of security and a spirit of hope and new individual interests that are at least socially harmless and that may be beneficial both to youth and to society. Such services are extended through many public and semi-public and private institutions—welfare agencies, employment offices, churches, camps, settlements—as well as public schools. Indeed, one can no longer deal with the day high school as though it typified secondary education. It must be seen in its setting in relation to the programs of national, state, and local governments for serving youth.

ENROLMENTS

Nevertheless, the public high school itself has greatly increased in enrolment, and is altering its program and administration radically to meet the almost overwhelming challenges that these enrolments bring with them. Indeed, the last of the bulletins giving the results of the recent National Survey of Secondary Education, distributed early this year, is like a voice from the grave; it is entitled ''The Horizontal Organization of Secondary Education,'' and deals with types of schools and groups of pupils who scarcely have counterparts in the urban high schools of 1935—cooperative part-time schools, social-economic levels of homes, pupils who leave school for work. G. F. Zook, Director of the American Council of Education, estimates that 7,169,000 pupils were enrolled in all secondary schools in September, 1935, representing 70.4 per cent of the age groups concerned; this percentage he compares with 10 per cent in 1905, 20 per cent in 1915, 30 per cent in 1921, 40 per cent in 1923, 51½ per cent in 1930 and 57.9 per cent in 1932. The Federal Office of Education places the present enrolment in public high schools at over 6,000,000, an increase of 20 per cent over that of 1930, the chief percentile growth having taken place in the highest grades and especially in the number of postgraduate students. Similar growth has taken place in junior colleges, especially those established in connection with the National Government's relief programs for unemployed teachers and youths.

Of the adolescent youths not enrolled in any school, little exact data are available. Some 600,000 are in Civilian Conservation Corps Camps. Between 200,000 and 300,000 are drifting from place to place working at odd jobs, staying in city shelters, in flophouses, and at transient camps maintained by the Federal and state governments. Other thousands, including many young children, are employed, often long hours at pitifully small wages, since the lapse of the codes due to the Supreme Court decision that the NRA legislation was in part unconstitutional. The United States Office of Education has begun a census of nonschool youths in cooperation with 60 selected typical cities, and the Commission on Youth Problems, appointed by the American Council of Education and subsidized by an $800,000 grant from a private foundation, plans an even more comprehensive survey of youths, their problems, and of promising programs for helping them to deal with their problems.

POSITIVE PROGRAMS FOR YOUTH

Meantime the national and state governments are not unmindful of their responsibilities. The failure of enough state legislation to ratify the proposed Child Labor Amendment has left all employers, who might use the labor of children but who do not do so voluntarily or because of state laws, at what they consider a disadvantage in competition with employers who do use child labor. Despite the publicity given to voluntary continuance of code provisions by agreement, evidence is plentiful that there are rapidly increasing numbers of children employed in industry and on farms. The anticipated upturn of manufacturing will doubtless bring a rapid acceleration of legal and illegal child labor employment. While there is evidence of increasing employment of young children, the conditions of employment of high school graduates is little improved. The Department of Labor estimates that 3,000,000 young people are unemployed and, in July, 1934, it found that more than one-third of all employable young adults, 18 to 29 years of age, were out of work.

To meet the serious conditions implied, there has been established as a part of the Works Progress Administration of the Federal Government a National Youth Administration with an allotment of $50,000,000 to be expended under the direction of national and state advisory boards on which youths themselves are represented, and which are to mobilize industrial, commercial, agricultural, and educational forces of the states to provide employment and render other practical assistance to unemployed youths 16 to 25 years of age. The Youth Administration undertakes to find employment in private industry for youths, to train and retrain them for employment opportunities, to provide for continuing attendance at high school and college, and to provide work relief upon projects designed to meet the needs of youth. It will be noted that the plan ignores the regularly constituted school authorities, Federal, state, and local, except through cooperation; for this reason it has been sharply, almost bitterly, criticized by public school representatives. It is recognized, however, that the Youth Administration is making possible the continuance in school and college of many young people (over 250,000 in all) of families on public relief who otherwise could not attend.

The National Youth Administration's functions supplement but do not duplicate that other major project of the National Government to serve and conserve youth—the Civilian Conservation Corps, now in its third year. The physical, civic and intellectual educational program of the Corps has shown consistent improvement. Established to keep male youths from becoming a wandering and desperate generation and to carry on conservation work on a grand scale, the educational program at first lagged behind the immediate goals of construction and camp routine. However, the appointment of educational advisers who have organized courses of study and recruited and trained teaching staffs from among the young people, the organization of the camp as a "training school in adult social behavior," and the training involved in the conservation projects have now progressed to a state of commendable efficiency. This educational program has now been allocated for direction to the Federal Office of Education. Whether the CCC camps under Federal auspices shall become a permanent part of American social economy and education or whether they shall be replaced by state and municipal institutions, or even whether they shall be discontinued entirely at some time, it is probable that the lessons of educational potentialities of organized youths engaged in constructive projects will not be lost on American educators.

In some instances, the high schools are themselves already alive to challenges in the community confusion and impasse. Summer programs involving not only scholastic work but also activities of recreatory, exploratory, and prevocational character have been developed for pupils both of elementary and of secondary school ages. So far this program has been carried on chiefly through the aid of emergency unemployed teachers. In the budget of the New York City Schools for the year 1936 now awaiting adoption, however, is a $300,000 appropriation for the restoration of the regular vacation schools, dropped from the budget in 1933. If adopted, this appropriation will permit the rounding out of the present program involving 392 playgrounds, 148 play schools, and 118 summer community centers for children of elementary and junior high school ages.

In New York, too, are found high school experiments in adult education, the first and best known of which is that conducted at DeWitt Clinton High School, now in its fourth year, carried on by the voluntary services of the regular high school staff. In other cities, notably New London, Conn., the community high school has been conducted for non-school young and older adults during the afternoon and evenings with the help of unemployed teachers paid by the Emergency Relief Administration. At Maplewood, N. J., the adult education center is carried on by various civic societies under the direction of the junior high school principal.

In too many cases, however, the schools are so fearful of youthful initiative and expression that the chief efforts of administrators seem to be directed to discouragement and even repression of youths who would interest themselves in such social problems as the prevention of wars and of fascism. Youth has been difficult to squelch, however, so that many rebellious youths have cooperated with the declared pacifists, socialists, and communists in demonstrating. In April and May, 1935, the demonstrations of school and college youths against preparations for war gained such wide community support from trade unions, churches, Y.M.C.A.'s and Y.W.C.A.'s, settlement houses, community centers, and the like that fearful high school principals who endeavored to punish students who participated in the demonstrations received much undesirable publicity and criticism from liberal and radical quarters. From now on they are liable to adverse criticism if they take sides at all. If that situation encourages them to permit youth to express itself honestly and freely, the democratic objectives of education will be served.

CURRICULUM ADJUSTMENTS

The same fear of criticism by loud voiced nationalists and defenders of the economic-political *status quo* has caused timid administrators to avoid experimentation in the social studies curriculum. This timidity has been markedly increased by the adoption of "loyalty oath" legislation in seven states during 1934-35 in addition to the 20 or more states that had previously adopted such legislation. The requirement of the oath of loyalty is not in itself important. Its stultifying effect upon the schools is due to the spirit of compulsion that characterizes the law and the uncertainty on the part of teachers whether any innocent remark made by either teacher or pupils may not be a basis for misunderstanding, public denunciation, and possible loss of position.

Nevertheless, pioneering schools have during the past year publicized in this field achievements that are quite as daring and pedagogically rather better elaborated than in any other period in the history of American secondary schools. The publication by the Ann Arbor, Mich., Board of Education of the manual on social studies entitled *Helping Children Experience the Realities of the Social Order* and by the State Department of Education of Virginia of the Course of Study for Secondary Schools containing its social studies core-curriculum bid fair to be truly epoch marking. They exemplify a spirit of courageous and competent treatment of social conditions that also finds expression elsewhere. The publication of *A Challenge to the Secondary School,*[1] edited by Samuel Everett for a Committee of the Society for Curriculum Study, makes available some 12 adventurous proposals, several of them actually undertaken, for revolutionary curriculum reforms in widely scattered centers in America. These reforms involve not only the social studies but also the content, organization, and methodology of the entire curriculum.

An emphasis in the social studies program which is not new but which has found greater expression during the year is that of consumer education[2] and cooperative marketing. In some progressive village schools, as for example the high school at Norris, Tenn., cooperative buying and selling are definitely integrated both with the curriculum and into the means of subsistence of a considerable number of pupils. Mention must also be made of the extended use made of correspondence courses to enrich curriculum resources by smaller high schools under the encouraging oversight of the departments of education of several states including New Hampshire, Massachusetts, and Nebraska, and of the further recognition of the values of informal community educational institutions and groups in supplementing and giving reality to school learnings in such fields as music, art, dramatics, speech, automobile driving, safety, civic participations, recreation, and etiquette.

In the area of measurement of attainments, two developments should be noted: (1) The Tulsa (Okla.) Junior High School experiment in the replacement of grade levels of instruction by individual adjustment of materials and methods based on tests of attainment and needs; and (2) the renewed emphasis on the development and uses of tests which correspond to the social and individual objectives of education, particularly for the appraisal of civic attitudes. Sociologists have heretofore been most active in fashioning such tests: only recently, however, have high school supervisors and teachers manifested widespread interest in their actual use in directing and recording the efforts of the school and of individual pupils to develop desirable social-civic behaviors and concepts.

New orientations in the areas of industrial and agricultural education and of home economics may be mentioned. Emphasis on the trends of trade union policies, or cooperatives and finance, and of service occupations, largely replace the out-moded preparation for specific skills. This development is the result of a somewhat tardy recognition of the technical developments in these fields. Individual adaptability in replacing specialization as the goal of technical education at secondary education level.

THE UNIVERSAL HIGH SCHOOL

Steadily the inevitable merging and unification of secondary and elementary education goes forward. During the past few years, leader after leader has recognized that the approaching universality of attendance on high school, already anticipated by law in 45 states, requires a definite surrender of the conception of the secondary school as a selective institution. Most noteworthy is the recent report of a Committee on Articulation and Integration composed of New York City administrators and supervisors which advocates important adaptations in the high schools to provide for non-academic pupils. In September, 1935 Superintendent Bogen of Chicago made a similar pronouncement of policy in behalf of the Chicago schools.

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[1] Published by D. Appleton-Century Company, Inc. New York, 1935.

[2] cf. Henry Harap. Survey of Twenty-eight Courses in Consumption. *The School Review*, XLIII, No. 7, September, 1935.

Opposition to such positions is not dead by any means. Charges of waste, of low standards, of intellectual dishonesty of those who would permit non-academic and ''lazy'' students to graduate from high schools, have come from District Superintendent Tildsley of New York City, from F. E. Spaulding of Yale University and from F. T. Spaulding of Harvard University.

INTEREST IN COMPARATIVE EDUCATION

The effectiveness and uniqueness of the new forms of adolescent education in Europe and Asia, particularly in the fascist and communist states, have come to interest students of secondary education in America. The Federal Office of Education is fostering more careful study of these ventures. New York State Department of Education advocates the inclusion of a course in comparative education as a part of teacher-preparatory training.

PROFESSIONAL ORGANIZATIONS' ACTIVITIES

The National Education Association, both in its general program in July and in those of its Department of Superintendence and affiliated organizations in February, 1935, gave much attention to the changing inclusiveness, goals, organizations and procedures of American secondary education. The Progressive Education Association has sponsored regional and general conferences in which the problems of reoriented education have been presented and avidly discussed. Moreover, this association has established several most significant commissions and committees, subsidized by private foundations, which are carrying on projects and studies of the greatest significance for the future of secondary education. One of them, the Commission on the Relation of School and College, has arranged with some 300 colleges, including most of the very conservative ones, and 30 selected but representative progressive secondary schools, public and private, to base their articulation on the quality of students graduated from these high schools rather than on the units in specific subjects completed. The quality of candidates is judged by the recommendations of the school principals, a carefully recorded history of each student's school life and of his activities and interests, and on the results of various types of psychological and aptitude tests and comprehensive examinations. The first candidates for admission to college under this agreement are now in their senior years. If they do make significantly superior records in college, it may be expected that in the future all progressive academic high schools will generally be freed from restrictions imposed by college domination.

The new freedom of these secondary schools to develop a curriculum which assures greater continuity and better integration of experience through the discarding of the more or less water tight unit compartments, and better adaptation to end exploitation of the resources of individual pupils and their environments is having wide-spread and beneficent effect. Teachers are being stimulated to adventure and create in areas that are new and fresh and alluring, and many schools which are not among the selected 30 are being challenged to carry on parallel experiments. In such curriculum adventures, the Progressive Education Association is furnishing leadership through its Commission on Secondary Curriculum which is fostering curriculum experimentation under the leadership of experts in a number of selected schools, and is carrying forward through its Committee on the Study of Adolescents what is likely to involve a fundamental reorientation of approach to secondary education, that of guidance as a basis for organization and teaching.

The North Central Association of Colleges and Secondary Schools and the other regional associations continue to sponsor experimental efforts to modify high school and junior college procedures. The six regional associations of colleges and secondary schools have organized a very important joint committee which is engaged in a radical revision of American secondary school standards of accreditation. Numerically, the number of schools and pupils which will probably be affected by this study dwarfs any other sweeping change in the history of American education, for there are included all accredited schools of the country, and the joint committee has the cordial cooperation and support of all state departments of education.

There remain the thousands of small and unaccredited high schools throughout the country which are not controlled by these accrediting associations and in many of which inflexible academic curricula are retained. They present very serious problems. In many states their terms have been drastically shortened during the depression; teachers are poorly paid and overburdened with many subjects to teach. In Ohio, nearly three-fourths even of the first-grade (standard) four-year high schools have fewer than 100 pupils each. Smaller schools depend chiefly on state departments of education for leadership and supervision, since they are seldom eligible for accreditation in the regional associations.

Forty-two state departments are reported to be engaged in projects of high school curriculum reform. With so much activity 1935 may well turn out to mark the beginning of a new forward thrust of American secondary education.

COLLEGIATE EDUCATION

By J. O. Creager

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RECENT DEVELOPMENTS

In attempting a characterization of tendencies in any field of education for a single year, it is impossible to distinguish between new and old in any absolute way. For convenience in thinking, however, one may roughly separate "tendencies" into "recent developments" and "well established trends." Under developments termed "recent" it is not implied that such changes originated within the last year. Rather is it suggested that they have come into prominence during the year, and to a degree thus constitute new features.

EDUCATIONAL PLANNING

There has been much discussion among educators during the last few years regarding the necessity of planning. It is held that the *laissez-faire* method of permitting things to take their course can no longer be tolerated. In contrast with the concept that the development of institutions is only a form of societal evolution comes the college professor as reformer, who proposes to fashion a new social universe by fiat, or at least by educational philosophy. This attitude has probably been more prominent among professors of education than it is among academic specialists, although the latter have by no means been willing to let nature take its course.

An example of this type of thinking is to be found in proposals to limit enrolment in such professional schools as medicine, law, engineering, and education. The American Council on Education, through its committee on Standards, has been giving this matter considerable attention, and a recent preliminary report presents facts showing that in the decade 1920-30 there was a 31 per cent increase in the number of lawyers in the United States as compared with an increase of 16 per cent in the population; that, as compared with a number of foreign countries, the proportion of lawyers to total population in United

States is excessive. A similar situation was found to exist in medical education. In engineering the increase for the same period was 50 per cent, so that we now have one engineer for every 425 persons. In the field of college and university teaching, the teaching staffs of 1078 universities, colleges, and professional schools in 1928-30 totalled 71,722 persons, an increase of 67 per cent over 1920. There were also 14,463 teachers in 331 normal schools, making a grand total of 86,185 collegiate teachers. In 1934, 56 per cent of approved institutions had a total of 67,521 teachers, a ratio of one teacher to 14.5 students. In Oxford and Cambridge, England, the ratios in 1928 were one to 16, and one to 15.6 respectively.[1]

Views differ as to measures which should be taken in regard to this problem. Some maintain that governmental action, by broad social planning should be undertaken.[2] Others, that the responsibility for control should rest with the professions themselves. And still others would leave results to open competition, hoping for survival of the fittest. Contrasted with Soviet Russia and Nazi Germany, where control has been under way for some time, we are still the land of the free.

It should be said that, with reference to the length of the term of training for certain professions, we have by no means reached the standard of some of the older European countries.

With as multiform a system of higher education—if system it can be called—as we have in this country, it would require a rather naive optimist to believe that we shall solve this problem cooperatively. When, after over 20 years of effort to prevent overlapping and duplication of function among state educational institutions, we have reached merely the beginnings of progress in comparatively few states; when we realize that we do not have public systems of higher education in our states, but a mixture of public and private; and when we consider the rampant, shameless individualism that exists in the competition of higher educational institutions for larger and larger numbers of students, a man should not be called a cynic for being sceptical about the dawn of the millennium in this field of so called "social planning." If, as a matter of educational guidance for the aspiring college student, some agency, such as the U. S. Office of Education, should merely publish the facts as to available opportunities for college and university graduates in the various fields of endeavor, it is possible, that after years of disillusionment among graduates—and their teachers—a better system of advisement with reference to professions would result. This would be a slow process, to be sure, but it would be at least American in its *laissez-faire* method of dealing with such problems.

CITIZENSHIP EDUCATION AT THE COLLEGE LEVEL

With the division of the four-year college course into junior and senior college units comes the problem of establishing definite aims for these two divisions. Hitherto, the subjects of the first two years had been largely regarded as preparatory for the last two. This conception was rendered futile by the fact that so large a percentage of students did not complete the four-year course. The prevailing idea now is that these first two years should be regarded as the completion of general education, and be made worth while in themselves. This view, connected with increased emphasis upon the importance of a broader and more thorough education for the citizen has brought into strong relief the need that the curriculum of the junior college division address itself definitely to the education of the future citizen. Whether or not there need be two curricula, one for the professional student, and one for the student not headed for the professions, is a problem upon which difference of opinion exists. Some institutions offer two curricula. Others, as for example, the University of Chicago, have but one, making some provision for electives for the pre-professional student. Along with curricular changes in the direction of citizenship comes an increased emphasis upon the social studies in colleges. These studies are under scrutiny today as never before. Specialists in this field are working overtime on the construction of books, syllabi, etc. for use at the college level, for the matter is complicated by two other problems, that of overlapping of materials of instruction between high school and college, and the problem of the new integration courses that are rapidly displacing the old single-subject courses. With so many curriculum problems in the junior college area, the pedagogical pot bids fair to keep boiling for some time to come.

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[1] See *Educational Record*, October, 1935; pp. 412-32, an article by Ramond Walters.

[2] Walker—"Planning for the Future"; *Journal of Higher Education*, June 1935.

TRAINING FOR GOVERNMENT SERVICE

It has long been noted by writers like Laski that the American college and university graduate does not go into political life or government callings to the extent that the English university man does. It has been regretted that such service is not highly esteemed. President Coffman[3] of Minnesota says that public service in this country is still in the ox-cart stage. There are 175,000 units of government in the United States, each with power to raise and spend money. Three and a quarter million persons are employed in governmental service. Yet appointments are still chiefly political. Civil service exists in nine states and 365 municipalities. Coffman holds that brain-trust positions should develop into professional career positions. He calls attention to the fact that Great Britain selects for administrative posts only the top honor men of Cambridge and Oxford; gives them apprentice-ship experience, then junior secretary-ships, etc. It was no doubt under President Coffman's leadership that the University of Minnesota, sponsored in 1931 a nation-wide conference on training for government service.[4] After the world war 19 colleges gave courses for consular and diplomatic posts. Within the present year Leonard D. White[5] of the U. S. Civil Service Commission delivered a series of five lectures at the University of Chicago upon this topic which is one of timely interest to college students and their advisors. These lectures have recently been published by the University of Chicago Press in a volume entitled *Government Career Service.* In it he pays tribute to the report of the Commission of Inquiry on Public Service Personnel also published this year.[6] Mr. White holds that the government can better rely upon a trained staff of professionally minded persons than upon ''dollar-a-year men'' or ''brain-trusters''. As evidence of possibilities for university training in this field he cites the fact that over 9,000 college graduates, from every state in the union filed for an examination designed to select candidates for the post of junior civil-service examiner.

That there is need as well as opportunity for the universities in this new field no one can doubt. In an article for *The New York Times,* Dec. 15, 1935, Frederick Gruin[7] tells of the gift of Nathian Littauer for the endowment of a new Graduate School of Public Administration at Harvard University. A commission has been appointed to report on university education for public service and recommend plans for the organization of the new school. Thirty-five or more institutions now offer courses. The charters of Yale and Harvard expressed the hope even in that early day that such training might be offered. European precedents are found in the London School of Economics and the Institute of Urbanism at Paris.

ACADEMIC FREEDOM

The venerable problem of freedom of teaching has raised its hoary head as a topic of more than merely academic significance during the year. Secretary of the Interior Harold L. Ickes chose this as his theme for a commencement address at the University of Alabama. A concrete case of parental criticism at the University of Chicago brought considerable discussion in the newspapers and several articles in magazines have appeared. President Hutchins ably explained the position of the University in the matter on more than one occasion earlier in the year. Harold J. Laski[8] had pointed out that universities everywhere were being "prostituted to the services of creeds, racial, economic and political", that the "lamps of reason are going out", and that there is need that the universities be "militant about their right to freedom"; that there is intolerance especially in Russia, Italy, Germany, and Austria. He suggested that universities should organize internationally to protect freedom. President Conant of Harvard, in an article in the *Atlantic Monthly* for April 1935, entitled "Free Inquiry and Dogma," stated that scholarship and research are under fire at the present time. He believes that we need "an adequate survey of our intellectual history," an "account of the historical development of our knowledge and our philosophy" in order to understand the scholar's contribution to civilization. He points out that the critics of our system of higher education usually have in mind a preconceived dogmatic position of their own and that there is especial need for discussion, debate and the clash of opinion in the teaching of philosophy and the social sciences. "We must have," said he, "our share of thoughtful rebels on our faculties."

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[3] Coffman, L. D.—"Education and Public Service," *School and Society*, March 16, 1930.

[4] *University Training for the National Service*, University of Minnesota Press—Minneapolis (1932).

[5] Leonard D. White—*Government Career Service*, University of Chicago Press.

[6] *Better Government Personnel*—Repor tof Commission of Inquiry on Public Service Personnel.

[7] Gruin, F.—"Public Service Training," *The New York Times*, Dec. 15, 1935.

Another notable utterance comes from John Murray, principal of University College, Exeter, England, in an address delivered at the conference of the World Federation of Education Associations.[9] In a most able and eloquent address he points out that dictators buy their power with promises of freedom; that they promise to deliver their people from some old regime which they dislike; that, while the universities are "lapped in traditions," the true root of their origin is the passion for knowledge, for expression, controversy, and teaching. He, too, suggests the need for internationalism in a nationalistic era and refers to the habit of migration among mediaeval students as a clue to a solution of this problem.

THE PLACE OF THE ARTS COLLEGE IN THE EDUCATIONAL SCHEME

While the Liberal Arts College is the oldest of our higher educational institutions, it has for the past few years, shown greater tendency to change its practices than certain other types of institutions in this group. A cursory sketch of the chief books dealing with this type of college in the past decade will indicate this. In the year 1923-24 Prof. Leon B. Richardson, who had been released from his duties at Dartmouth College, visited the leading colleges and universities in this country, Canada, England, and Scotland. The book which he wrote in 1924 is a thorough, scholarly discussion of the chief curricular and instructional problems of the arts college and shows that its author was quite well aware at that time of the need for reform. His comparisons with practices in other countries, his suggestions for the improvement of the system of learning and instruction in vogue in such colleges, and his discussion of the training of the future college instructor, indicate an unusual grasp of many problems in this field which have since that time been attacked by certain arts colleges here and there which were disposed to experiment with new practices. In 1925, Dr. F. J. Kelly,[10] as a result of extensive research made with the aid of a subvention from the Commonwealth Fund, published *The American Arts College.* This book deals chiefly with problems of instruction, student guidance, and curricula, and presents the results of the author's research with recommendations for improvement.

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[8] Laski—*New Republic*, Jan. 23, 1935—"Universities in These Times."

[9] See: *Universities Review*, October, 1935—"Freedom in Universities," J. Murray.

[10] Kelly—*The American Arts College*—Macmillan.

A book by Dean Johnston[11] of the Arts College at the University of Minnesota in 1930 is a comprehensive discussion of the problems of the arts college as a unit in a large state university. It is both practical and philosophical in treatment. Within the year 1935, the same author has published in book form a series of papers and addresses dealing chiefly with the place of the arts college in our scheme of higher educational institutions in this country.[12] President Wilkins, now at Oberlin College in Ohio but formerly dean of the College of Arts and Sciences at the University of Chicago, has written two books dealing with the arts college. The first of these, entitled *The Changing College*, was written in 1927,[13] and was followed in 1932 by his *College and Society*,[14] which sets forth a thoroughly conceived program for the future arts college. In this book he states that the most important phenomenon which has taken place in the field of higher education in the past 50 years has been the bisection of the arts college. His program for the future arts college deals constructively with this fact, and makes special provision for the junior college program as a part of the offering of the college. Taken with Johnston's earlier book, we have in these two publications a thoroughly conceived philosophy and program for the arts college.

Two other books published within the year deal chiefly with the problems of this type of college. These are A. Lawrence Lowell's *At War with Academic Tradition in America*, and Dean Boucher's *The Chicago Plan*. The book by Lowell comprises a series of essays and addresses dealing chiefly with the administration honors courses at Harvard, though by no means wholly limited to such. *The Chicago Plan* is an account of what is taking place in a college of two years in scope and definitely committed to the completion of general education within this period. It may be noted that in the Chicago Plan underclassmen are invested with the same responsibility and given similar freedom to that reserved for upperclassmen in colleges using the honors system.

These books have been briefly characterized here in order that the reader may note the unusual and unprecedented fact that in the decade 1925-35 the literature on the arts college represented by books alone indicated a period of unusual interest in the problems of this type of institution.

RECENT CRITICISM

The year 1935 has brought forth an unusual number of magazine articles dealing somewhat critically with the arts colleges. Some writers have pointed out the weak spots; others have proposed reform. David Snedden[15] holds that this type of college should divest itself of all vocational objectives and address itself to ''cultural, civistic, religious, health-preserving, personality-refining, and other forms of general liberal education.'' Chancellor Chase[16] of New York University has many ''doubts'' regarding the arts colleges. He believes that the standardizing agencies have ''choked experimentation'' in these colleges; that they prevailingly get for their faculties a rather stereotyped Ph. D. from a few graduate schools, with their hearts set upon promotion to a larger institution rather than upon improving their efficiency in the college where they hold their present positions. He has doubts about student life, especially fraternities, which he believes ''wage successful war against individuality.'' He holds that real experimentation with better procedures is going on in comparatively few colleges. In summarizing, he says: ''These are the forces that bear upon our American Colleges and make for conformity, uniformity, and orthodoxy.''

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[11] Johnston—*The Liberal College in Changing Society*—Century Co.

[12] Johnston—*Education for Democracy*—University of Minnesota Press.

[13] Wilkins—*The Changing College*—The Century Co.

[14] Wilkins—*Society and the College*—The Century Co.

[15] Snedden—"Toward Free and Efficient Arts Colleges," *Journal of Higher Education*, June 1935.

[16] See: *American Mercury*, November, 1934—"Doubts about Liberal Colleges."

Many other writers have dealt critically with this type of college, some proposing one order of reform, some another. In general it may be said that the arts college finds itself today in what will probably prove to be the most critical period of its history. Hampered for lack of funds in many instances; threatened by the coming-on of the junior college as a dangerous competitor in its first two years where most of its students are; in conflict with the growing and competing teachers-colleges under support of state subsidy; overshadowed by the big universities both public and private at a time when size seems to attract students; with all these conditions, it faces a period of hazard and probably of radical readjustment.

REORGANIZATION

Tendencies in reorganization have been on the increase among the colleges and universities during the year. These have manifested themselves in two forms, curricular and administrative. The former indicate an increased number of institutions organized upon the junior-senior division plan with an accompanying tendency towards functional organization. It seems that the accelerated growth of the junior college has stimulated the four-year institutions to conceive of the function of their first two years as that of the completion of general educacation, while the senior college subserves the purpose of specialization, or the beginning of higher education properly conceived. Along with the functional idea comes the problem of selecting subject-matter for this junior division curriculum, so as to give the student a better opportunity to round out his knowledge and integrate his thinking in terms of larger fields of thought, dealing with problems of life. Hence, the increase of integration courses in the fields of the sciences, social sciences, the humanities, etc. This tendency, while apparently new, is as old as many of the older universities of England, Scotland, and other countries. The testing of the mastery of these more comprehensive fields brings into requisition a different type of examination, so that comprehensive examinations are coming to the fore as another new revival of a very old practice. It is interesting to observe at this point that integration as a function of purposeful thinking in education seems to come to the surface in America just at a time when, in the fields of social science and philosophy, if not in science itself, the problems of public welfare that confront us are precisely those that require information from more than one field. While the specialist does not cease to be useful in exploring new fields of knowledge the demand is for a new order of specialist and for cooperation among specialists for a more effective education of the citizen. If the first two college years are used to round out the civic education of the student, the curriculum of these years will need careful revision.

In addition to curricular reorganization there has been, and is, a decided tendency toward administrative reorganization of the system of control of higher educational institutions. Since 1915 state surveys of higher education have repeatedly pointed out the need of a more effective system of control if waste due to duplication of effort and overlapping of curricula is to be prevented. With the exception of a few states, however, the matter has received little attention of a constructive nature until recent years. We have at last reached the conclusion that control, to be effective, should be centralized in one authoritative board of higher education legally authorized to deal with the problem. Such boards now exist in 14 states.

A somewhat similar consolidation of effort has, to an extent, been achieved voluntarily among privately controlled colleges under church sponsorship by means of merging two or more institutions into one.[17] In this connection it is noted that there have been several recent instances of the closing of old institutions and the establishing of new ones. In 1934 eight institutions were closed as contrasted with 32 the previous year. Greenleaf points out that in a period of 10 years 112 colleges were closed. Forty-four of these were junior colleges, 30 of which were merged with other colleges. The 1935 *Educational Directory* lists 215 additional institutions, which include 123 junior colleges, 51 professional schools, 32 colleges, and nine teacher-training institutions. Few of these are new; they have merely been admitted to status necessary to be included in the directory.

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[17] See: Greenleaf on "Colleges in 1935," in *Journal of Higher Education*, March, 1935. This is an analysis of the 1935 *Educational Directory*.

IMPROVEMENT OF TEACHING

The article in THE AMERICAN YEAR BOOK for 1934 (pp. 947-952) dealt with the general development of this movement. There are two general methods of procedure which have been used in the attempt to improve teaching in college. One of these is to attack teaching method directly by using one method rather than another. The other is to change the conditions under which the learner works, as in honors courses. Most of the arts colleges which have undertaken to improve instruction have used the later method, or a modified form of it. There has been, however, chiefly in the larger universities, a good deal of controlled experimentation in the comparison of the effectiveness of two methods. A mere bibliography of references dealing with this type of experimentation would constitute quite a volume. There is a persistent disposition among professors of education to prove something definite as to the relative effectiveness of two competitive methods. This has greatly stimulated the interest of subject-matter specialists, who, in the larger universities, are cooperating with experts in the field of education in this enterprise. The present year shows an unusually large number of efforts in this direction. A critical appraisal of the application of the results of this type of research and a consideration of the changes which would follow their use in colleges may be found in a recent article by Dean Charles E. Prall of the University of Pittsburgh.

The second method of attack in the attempt to improve instruction in colleges may be called indirect or informal. It proposes to improve learning rather than teaching by changing the conditions under which learning takes place. The honors type of work seems to be on the increase if we are thinking of the number of institutions which have adopted it as an optional road to a degree, but if we have in mind the number of students who choose this route to a degree it is actually on the decrease. The reason is obvious. Both classes of students are granted the same degree. There is no tradition, as in England, for the preferment of the honors graduate. The American student is too practical-minded to do more work to reach the same goal.

There are, however, other indirect methods of attacking the instructional problem. McNeely[18], in a recent survey of changes, divides colleges into two groups upon this point: 1. Those that have abolished required class attendance, semester hours credit, daily and weekly recitations, quizzes for all students, and 2. those that have applied this reform to only a part of their students. In the first group he classes Chicago, Olivet, Rollins, Reed, Bennington, and Goucher. In the second group there are over 100 institutions. The independent study plan, which is a modification of the honors plan, he finds in vogue at Buffalo, Haverford, Bucknell, Radcliffe, and Wells.

Umstattd[19] finds by catalogue study that independent study plans are in practice in 175 institutions. Two-thirds of the A. and M. colleges and one-half of other institutions, except teachers colleges, permit such plans. No plan for independent study was found in any teachers college or normal school. The chief testing device is the comprehensive examination.

ACCREDITMENT

A definite emphasis upon qualitative standards for accreditment has appeared. An institution is to be judged by the total pattern it presents. Superiority in one respect may compensate for deficiency in some other. Institutions will be judged in terms of their success in achieving certain purposes which they are to declare. They must submit a statement of objectives —general, terminal, and objectives for the individual development of students. Curricula must indicate offerings implied by the proposed institutional objectives. Interest in the quality of teaching must appear in the selection, induction into service, and promotion of instructors. Stress is laid upon improvement of examinations and familiarity of the faculty with research and "current points of view," presumably in education though "deponent saith not," definitely. The institution must present evidence of continuous study of its policies and continuous improvement of them.[20]

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[18] McNeely—"Changes in Traditional Methods of Collegiate Instruction," *School and Society*, Feb. 16, 1935.

[19] Umstattd—"The Prevalence and Practice of Independent Study," *Journal of Higher Education*, October, 1935.

HOUSING SYSTEMS AND STUDENT LIFE PROBLEMS

Space will not permit an adequate discussion of this topic, but it obviously represents one of the recent developments in this field and one which has received particular emphasis during the year. W. H. Cowley[21] of Ohio State University, late in 1934 published significant contributions to the history of residential student housing. Beginning with its origin in the earliest mediaeval universities, he traces its development through the centuries to the present day. Apparently he does not think the Yale and Harvard housing plans will have extensive application in this country. He says: "The attempts being made today at Harvard and Yale to reclaim the dormitory for educational purposes will very likely be successful, but the typical American College will perforce follow the American rather than the British Pattern."[22] It will be noted that even at these two institutions the "colleges" that are being established are not institutions organized for instructional work as at Oxford and Cambridge, and that the university, in each case, still maintains its unity; so that, instead of being a federation of colleges, the university remains as before, the closely knit organization which controls the educational program, the administrative policy and, in fact, the "colleges" themselves. That the housing plan will have great value as an educational adjunct wherever it can be properly established, no one can doubt. That there will be, here and there, weak imitations of the real thing is implied in a recent book of President Lowell, when he says[23]: "Houses which are little more than dormitories, without dining halls, without libraries, without tutors and with no professors as associates."

NUMBER OF INSTITUTIONS, ENROLMENT, ETC.

Space does not permit a detailed presentation of this topic. The best sources for such information are listed in the references given below. As indicated by the title the article by Wilkins is probably the best reference dealing with trends. Summarizing certain of the most significant conclusions regarding trends in this field we may say: 1. The proportion of college graduates going on to graduate or professional schools has declined very rapidly since 1900; 2. The Independent Arts College once dominant in the field of higher education now enrolls only slightly more than one-fourth of all collegiate students, the universities more than 40 per cent and the junior college about 15 per cent; 3. Enrolments in arts college for the last three years have remained practically identical, with the enrolment of 1931-32, university enrolments have increased about 35 per cent, teachers colleges approximately 150 per cent, and junior colleges more than 500 per cent. In 1931-32 more than 40 per cent of the total number of undergraduates were enrolled not in arts and sciences, but in professional schools.

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[20] See: *School and Society*, Dec. 1 and Dec. 8, 1934.

[21] See: *North Central Association Quarterly*, July, 1935.

[22] See: *At War with Academic Traditions in America*—p. 350.

[23] *School and Society*, Dec. 1, 1934 p. 710

The 1935 *U. S. Directory* shows the following totals in numbers of institutions in the five following classes:[24]

A.	Colleges and Universities (four-year degree—granting institutions offering liberal-arts curriculums)	700
B.	Professional Schools (independent of any college and university)	250
C.	Teachers Colleges (four year degree-granting)	171
D.	Normal Schools (1, 2, or 3 years) ..	93
E.	Junior Colleges (one-year junior colleges not listed)	448
	Total number in United States...	1,662

JUNIOR COLLEGE TRENDS

According to Eells[25], the total number of junior colleges in the United States and its possessions has increased from 519 reported in the 1934 *Directory,* to 526, while the enrolment has increased from 105,457, in 1932-33 to 110,118 in 1933-34, an increase of 4.4 per cent. While the number of junior colleges increased from 408 in 1928 to 526 in 1935, the enrolment more than doubled during this same interval. Of the entire group of 526 institutions 223 (42 per cent) are public, and 303 (58 per cent) are private. The public institutions are not only increasing somewhat more rapidly in number, but they have much the larger proportion of the enrolment, approximately 70 per cent of the total. California, with almost exactly one-third of the total enrolment, shows the largest increase during the year.

A somewhat new emphasis occurs in the growth of requirements for the certification of junior college instructors. Eells reports a summary of such requirements for 11 states. In these states are found 170 public junior colleges, 78 per cent of all institutions of this type in the United States, and enrolling 83 per cent of the students in all public junior colleges. Certification of instructors is required in seven states, and not definitely required in three, and varies according to the type of college in one state. This indicates a decided tendency to look upon the junior college as legally a part of the public secondary school system of the state.

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[24] For a complete table giving the number of students enrolled and the numbers on the teaching staffs of the 1,662 institutions, see: Walter's article in *School and Society*, Dec. 14, 1935 (Vol. 42).

[25] *Junior College Journal*, February, 1935, p. 267.

EDUCATION FOR THE PROFESSIONS

By Alonzo F. Myers

Professor, New York University

In this article it has been possible to present only a brief report of some of the significant developments in a few of the professions in the year 1935.*

LEGAL EDUCATION

Law School Statistics.—In 1934-35 the degree-conferring law schools in the United States numbered 193, of which 82 were full-time, 85 part-time, and 26 of the "mixed" type, maintaining separate full-time and part-time divisions. As compared with figures published for the year before, there were one less full-time school, one more part-time school, and three more "mixed" schools. The autumn attendance was as follows: full-time schools (complete) 15,414, being 196 in excess of the figures for the preceding year; part-time schools (12 schools not reporting) 11,692, being 369 less than the year before (9 schools not reporting); "mixed" type (1 school not reporting) 11,806, being 842 more than the year before (2 schools not reporting); total for all schools 38,912, being a net gain of 669. Of the 11,806 students attending schools of the "mixed" type, 3,912 were reported as being in full-time divisions. At the close of the academic year, 70 of the full-time schools (85 per cent) were members of the Association of American Law Schools, and these, with three others (making 89 per cent) had been approved by the Council on Legal Education as complying with the standards of the American Bar Association. No exclusively part-time school (conferring degrees) had qualified under the standards of either Association, but 9 of the "mixed" type were members of the Association of American Law Schools, and these, with two others, had been approved by the Council on Legal Education. One part-time school not conferring degrees had likewise been approved by the Council. Among degree-conferring schools, those "approved" contained over 93 per cent of the exclusively full-time attendance, nearly 42 per cent of the attendance at schools of the "mixed" type, and just under 50 per cent of the total attendance at all law schools.

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* The author is indebted for significant contributions of the materials presented in the several sections of this article to the following persons: *Legal Education*, Alfred V. Reed; *Medical Education*, Paul Titus; *Engineering Education*, Charles F. Scott; *Business Education*, Herbert A. Tonne, A. Wellington Taylor; *Theological Education*, Lewis J. Sherrill, James E. Cummings.

MEDICAL EDUCATION

Advisory Board for Medical Specialties.—In THE AMERICAN YEAR BOOK for 1934 the article on Education for the Professions contained a statement of the organization and purposes of the Advisory Board for Medical Specialties. It also contained a list of the branches of medicine which are recognized as suitable fields for the certification of specialties. The list of these fields is reproduced herewith:

1. Internal Medicine
2. Surgery
3. Pediatrics
4. Obstetrics and Gynecology
5. Ophthalmology
6. Otoloaryngology
7. Dermatology and Syphilology
8. Psychiatry and Neurology
9. Urology
10. Orthopedic Surgery
11. Radiology
12. Pathology

There was a statement of the general qualifications of candidates for admission to the examination for special licensing.

Certifying Boards.—At present nine of the 12 specialties listed are represented by certifying boards and actively functioning. It is of particular interest that officially appointed committees are now engaged in the formation of boards in the remaining three specialties, namely General Surgery, Internal Medicine and Pathology. These boards will probably be fully organized and ready to apply for admission to this Advisory Board for Medical Specialties and recognition by the Council on Medical Education and Hospitals of the American Medical Association at the May meeting in Kansas City in 1936.

The direct result of the organization of qualifying boards in the various specialties has been a sharp improvement in and a greater demand for adequate training facilities in the various specialties to meet requirements which we have established. The American Hospital Association is cooperating actively in this, and the Secretaries of the various boards are constantly receiving letters of inquiry and directing men where and how to apply for such training.

At the present moment, the Advisory Board is planning to publish a joint registry of diplomates of these several specialty boards, and in this connection each of the separate boards is surveying the training facilities in this country and Canada. Reports on these are being published in the various specialty medical journals and then will be included in the joint registry. Thus they not only require higher standards of training for recognition as specialists, but they also are endeavoring to supply information as to how these requirements may be met.

Post-Graduate Courses for General Practitioners.—An interesting outgrowth of this work in obstetrics and gynecology is that many general practitioners are now writing in, asking how and where they can obtain short post-graduate courses in order to make themselves more proficient in the care of patients coming to them in the course of their general practice. The next move that the American Board of Obstetrics and Gynecology will undertake will probably be a survey and publication describing where and how such instruction may be obtained.

Medical School Inspections.—Probably the most important development in medical education during the year has been a continuation of the inspections of the medical schools. This is a part of the re-survey of American medical schools which was initiated in 1934. Important developments and improvements in medical education may be expected as a result of this activity.

ENGINEERING EDUCATION

Report of Committee on Progress.—The Society for the Promotion of Engineering Education in 1934 appointed a committee to report on progress in engineering education. The committee consists of the following: M. L. Enger, R. H. Fernald, E. A. Holbrook, A. H. White and C. F. Scott, Chairman. The report which follows is based upon the first report of this committee.

Mechanical Engineering.—The following developments and tendencies are noted: (1) More attention to machine design and related subjects from the viewpoint of analysis and the application of advanced mechanics; (2) Growing appreciation of the mechanics and dynamics of fluids; (3) a shift from manual training type of shop courses to research in shop processes; (4) shift from drafting work in machine design courses to stress analysis and computation.

Mining Engineering.—There is realignment in the relation between Mining, Metallurgy, Petroleum, Natural Gas and associated geological programs to meet the new contribution of science and the new industrial conditions.

Public Service Engineering.—The increasing proportion of engineering graduates, especially the younger men, who are finding employment in city, county, state and Federal service indicates a trend which will doubtless continue and will, at least in part, be permanent. This is an added reason for keeping the undergraduate curricula broad rather than specialized.

Graduate Study in Engineering.—The phenomenal growth of graduate work in engineering (in 12 years the advanced degrees conferred increased from 178 to 1197 and graduate enrollment in engineering advanced from 10th to second place among the sciences) prompted the appointment of a committee in 1933 for the study of status and trends. Professor H. P. Hammond is chairman. The United States Office of Education has joined in the collection, tabulation and publishing of data. The report is a masterly achievement. The first installment of results presented in June included the following topics: Resumé of the History of Graduate Work; Growth and Present Magnitude; Part-time and Cooperative Graduate Courses; Subsidized Opportunities for Post-Graduate Work; Scholarships and Fellowships; Relationships of Post-Graduate Work to the Faculty; Relationships to Undergraduate Work; Examination Methods and Employment of Graduates. Additional topics to be presented next year are Organization and Administration; Basic Nature and Objectives of Graduate Work; Admission and Graduation Requirements; Thesis; Foreign Language Requirements; Degree Practices; Costs and Facilities.

Engineers' Council for Professional Development.—Committee on Student Selection and Guidance, Dean R. L. Sackett, chairman, is concerned with guidance programs and with methods of selection of students. It advocates a counsellor service by groups of engineers; the distribution of ''Engineering; a Career—a Culture'' and its use by the counsellors; it encourages guidance conferences such as are conducted in summer camps by Stevens Institute of Technology, Lafayette College and Worcester Polytechnic Institute. It is instituting tests in various institutions to determine the correlation between these tests at entrance and the first and the four year records; it seeks means for determining attitudes which may show engineering ability; it is seeking with the aid of the division of drawing to develop a new test of ability to visualize. Progress is being made in the organization of local committees on professional training in selected communities.

Committee on Engineering Schools.—President Karl T. Compton (Massachusetts Institute of Technology), chairman, has been constituted as the official agency for accrediting engineering schools and colleges and he undertook accrediting in the New England and Middle Atlantic States in November, 1935. As the Engineers' Council on Professional Development represents the three divisions of the profession chiefly concerned with the problem of accrediting (the professional societies, the engineering colleges and the state licensing boards) it is the only agency under which this important movement in the history of engineering education may be undertaken under sufficiently inclusive auspices.

Committee on Professional Training.—General R. I. Rees, chairman, aims to aid the young engineer (after his graduation) to attain full professional status. "Suggestions to Junior Engineers" includes an outline for personal appraisal and a reading list in the field of general knowledge; there is also a selected bibliography of engineering subjects. A nation wide bulletin of educational facilities available to employed men has been prepared. A junior committee is actively aiding to make effective a development program for young engineers. In some localities members of the sections of the several National Engineering Societies are forming joint advisory committees.

Employment of .Graduates.—Reports indicate that a large proportion of the engineering graduates in the four depression years were satisfactorily employed in the fall of 1934; graduates of arts colleges were less fortunate. The significant conclusion is that business and industry give preference to men with engineering training. Openings for recent graduates are to a large extent found outside of the normal (1929) channels. Small industries find college engineers useful. Mechanical and electrical activities have shifted from durable goods to consumer goods; industrial readjustments call for more engineers for application and operation than for design, which in turn puts a premium on adaptability in graduates.

EDUCATION FOR BUSINESS

Trend to Higher Training Level.—The losses in enrollment suffered by collegiate schools of business were rapidly being recovered during 1935. So much of the constructive effort of these institutions was devoted to repairing the destruction in organization and loss of personnel by the sharp drop in income that less attention was given to possibly more fundamental considerations. In an effort better to serve the student body and thereby secure its more effective support, these institutions have gone somewhat beyond the fields which have already become a form of tradition with them. Specifically, more institutions have begun to offer work or increased their offerings in training for retail selling and secretarial occupations. In this work they have been on the whole quite successful. This success has made business educators even more aware than formerly that the level of training for these professions and semi-professions is passing from the secondary level to the collegiate. While the colleges are trying to maintain these types of offerings at a definitely professional level, they are not entirely successful, and will probably continue to deviate from the strictly professional until they set up better entrance standards for these offerings whereby they will secure student bodies of professional calibre.

Faculty Concern with New Deal.—Apart from financial, personnel and student body problems, the instructional staffs of collegiate schools of business have been most concerned with the trend of the New Deal. They have from the very beginning of the New Deal movement been more critical of it than their colleagues who taught theoretical economics in the liberal arts colleges. This attitude was probably derived from their closer contact with business men and their immediate problems as entrepreneurs in the profit system. The New Deal in is various manifestations is now with little exception confronted with sharp indictment from the staffs of these institutions.

Private Schools of Business.—Apart from the collegiate school of business little has been done in developing sound professional training for business. Several of the larger and more financially well-established private schools of business have so reconstructed their programs and teaching personnel as practically to duplicate the work of the formally recognized collegiate school of business. These adjustments have been made in large measure to meet the demands of state departments of education which are constantly increasing the educational requirements for those phases of business which are given recognition as professional by the various state governments.

Junior College.—The junior college offering in business is still little more than an extension of the high school or an imitation of the first two years of college work in business. These schools have as yet given little attention to the training of workers at semi-professional levels of business which will quite certainly be their unique function when they have a better opportunity to orient themselves from the higher and lower institutions which encompass them and which they still feel bound to imitate.

Adult Schools.—Adult training for business in full time vocational schools or in the various state and federally supported public works institutions has made little pretense at professional training. The prime function of these schools has been aimed at lower levels of training and at the maintenance of student moral. The individual functions of the collegiate schools of business, the adult schools for business training, and the private school have not yet begun to differentiate, and therefore little of the work in these institutions for professional training for business has attained the clear-cut purposefulness which is so necessary to the best form of professional training.

Selective Trends and the Social Aspect.—There is a growing feeling that education in itself is not capable of producing a desirable type of business man, doctor, or lawyer; that in addition to training men for these professions, a more careful selection as to character and personal qualifications is being exercised. It is true that in the fields of medicine and law and engineering there have been set up standards of technical training which have kept out a good many who are not qualified in those respects. It has, however, permitted the entrance into those professions of persons whose social interest has been very much lacking. An acquisitive instinct has predominated in too many cases. The medical colleges, dental colleges, law and engineering schools are steadily trying to improve all those going into those professions by requiring of them in their somewhat more formative years a study of social consciousness. This is probably due to the fact that people nowadays are thinking more in a social way than they did some time ago when individualism was held in such high esteem. The idea that every individual working out his own best interest would contribute most to social welfare has had somewhat of a check.

In the insurance field it used to be a custom to put on as many insurance salesmen as one could sign up and through the method of trial and error weed out those who could sell insurance and let the others go. The trend nowadays is decidedly in the direction of selecting salesmen and training them, not alone to sell insurance but to sell insurance service; to analyze the situation of the prospective client with a view to providing him with the best type of coverage his particular case calls for. The establishment of the Certified Life Underwriters organization, similar to Certified Public Accountant, is an effort to broaden the training and qualifications of men in the field of insurance. Added cultural training is being made with respect to the Certified Public Accountant's examination. Requirements have been drawn governing the application for permission to take the Certified Public Accountant examination which include a minimum of two years of so-called cultural study. The suggestion is being made that the banking situation can be corrected only by selecting the right type of banker rather than by passing legislation governing banking practice. All the way along there is a growing feeling that unless the type of person entering a given profession is of such character as to cause him to consider the social aspect of his profession, certain definite requirements will be set up including in those requirements a certain amount of consideration of the group responsibility and the relation of individual to society at large. If there is any distinctive trend these days, it is in that direction; placing more emphasis upon character, personal fitness, a sense of social responsibility, more than the vocational skills.

THEOLOGICAL EDUCATION

Protestant.—Theological education continues to feel the reconstructive effects of the survey of theological education published in 1934 in four volumes under the title, *The Education of American Ministers.* As intensive a study as this has required time for digestion of its facts and interpretation of its meanings. That both of these have been taking place is evidenced in many ways. Without any dramatic episodes to attract public attention, there has been a fairly constant attempt among seminaries at self-criticism and at reconstruction. The Conference of Theological Seminaries and Colleges in the United States and Canada, composed of 66 institutions for theological education, increasingly serves as a clearing house for cooperative undertakings, dissemination of information, and initiation of new types of work which can be carried out more effectively by associated endeavor than by individual institutions alone. As one means toward the carrying out of these undertakings, the Conference has established the position of Executive Secretary.

Raised Entrance Requirements.—While it has long been the standard of seminaries to require a college degree for admission to candidacy for a theological degree, the survey mentioned above disclosed much laxity in the actual practice. The disclosure of the extent of laxity at this point has led seminaries toward a stricter practice. Movements now under way are designed to strengthen the practice in three particulars. The first is a more consistent application of the requirement of a first college degree. The second is the establishment of a generally recognized pre-seminary curriculum which may serve as a guide for college administrators, for students looking toward the ministry, and for seminaries evaluating the college preparation of persons entering seminaries. The third is the construction of guides for estimating the personality and aptitudes of candidates for the ministry, with a view to the earlier discovery of persons who possess suitable personal qualifications and the discouragement or elimination of those who do not.

Curriculum.—There has been a very extensive study by seminaries of their own curricula in view of the findings of the study, the recommendations of recognized groups, and the practice of leading institutions. This study has been followed by revision of curriculum in numerous institutions. Generally speaking, the revisions have had two characteristics. First, they have tended to simplify the intricacy of the curriculum set-up by putting all courses into three or four large groups. This in turn has tended to have the effect of blurring departmental lines, and raising instead the conception of a few great types of work done in preparation for the ministry. Second, they have led toward a clarification of the functions to be served by theological education. Two functions have been struggling for supremacy in the minds of theological educators. One may be called preparation of the mental and spiritual equipment of the minister in the making, by means of such familiar resource materials as the Bible, church history, theology, philosophy of religion, etc. The other may be called training in the actual operations used in the ministry. For a time, it looked as if seminaries might become classifiable into two great groups depending upon the stress upon one or the other of these two functions. At present, however, it appears that virtually every institution recognizes the necessity of both functions and will not forego emphasis upon either.

Stresses in Resource Subjects.—In the subjects mentioned as belonging in the discharge of the first function named, probably the most noteworthy development is a renewed interest in and emphasis upon theological and philosophical subjects. This may be traced largely to two sources: the Barthian movement and the renewed examination of the foundations of liberal thought. From the seminaries has emanated a series of provocative books dealing with such themes, and accounts indicate that these represent equal attention to such topics by men preparing for the ministry.

Field Work.—In connection with the second function mentioned, there is continued effort to discover how the actual practices of the ministry may be supervised while the student is in preparation. The need has been clearly recognized for many years but it has proved excessively difficult to find a method nicely suited to the peculiar conditions under which preparation for the ministry is carried on, with the student of necessity separated from his field for much of his professional education. Three kinds of effort are now being made. The first may be called supervision of practice under normal conditions. In this, the student is placed in a church for either total or partial responsibility for that church. His work in the church is supervised by the institution. Experimentation continues in the search for the most effective and at the same time economical method of supervision of field work of this type. The second may be called supervision of contact with abnormal conditions. Two significant lines of experiment of this type are being carried on. One is contact by the student with abnormal social conditions. Perhaps the most notable experiment of this kind has been carried out by the Protestant Episcopal Church through its ''Summer School in Social Service for Candidates for the Ministry and Junior Clergy,'' at Cincinnati under the direction of William S. Keller, M.D. A few institutions allow students to present courses from schools of social service for the divinity degree. Another is supervised contact with abnormal mental cases. The most noteworthy work in this direction is being promoted by the Council for the Clinical Training of Theological Students. This Council has working relations with several hospitals for nervous and mental diseases. Selected theological students may be placed as attendants on the wards, and they work under double supervision, from both the medical and the theological points of view. Work of this nature may also usually be presented for credit toward a divinity degree.

Lengthened Period of Study.—From several quarters has come a movement for lengthening the period of study for a divinity degree to four years instead of the now common three years. The Missouri Synod Lutherans and the Augustana Synod Lutherans have incorporated this into their policy and require the additional year to be spent in the field in association with a more mature minister. The United Lutherans have approved the plan in principle and look toward carrying it out as rapidly as possible. The Presbyterian seminaries show a growing sentiment in favor of four years for the first degree. If the practice becomes general, it remains to be seen how the seminaries will conceive the use of the added time.

Accreditation.—A movement is under way, though still in the formative stage, for accreditation of theological institutions. There seems no reason to suppose this will take the form of standardization, for the attitudes of seminaries generally is one of welcoming experimentation in curriculum and of resistance to any efforts which would stereotype either content, points of view, or method. Rather, it appears the movement will mean a voluntary association of institutions agreeing to observe certain standards and being classified accordingly.

Economic Outlook.—Theological institutions depend for financial operation chiefly upon two types of resources, namely, income producing endowments and contributions. The effect of the depression has been felt on both sources of income. Seminaries' funds have usually been wisely invested but even when the principal of investments has not been endangered, the income has very commonly been affected. Contributions likewise have been reduced. It is apparently true that seminaries have been less crippled by the financial situation since 1929 than is the case with most institutions of higher education. Nevertheless, the effect has been felt and one result has been renewed interest in possible merging of institutions fulfilling about the same functions in the same general territory. Some mergers of this nature have already taken place and others are contemplated.

Catholic Seminaries and Curricula.—The following are the latest statistics on Catholic Major Seminaries in the United States:

Faculty	
Religious	644
Secular	227
Lay	29
	900
Students	
Religious	3222
Secular	4578
	7800
Graduates	1305
Ordained	
Religious	372
Secular	712
	1084

During the year the Department of Education of the National Catholic Welfare Conference published the doctoral dissertation (Graduate School of Arts and Sciences of the Catholic University of America) of Rev. Theodore H. Heck, entitled "The Curriculum of the Major Seminary in Relation to Contemporary Conditions." The specific purpose of the writer was to make a survey of present curricular offerings and to present a plan for the unification of courses into a minimum program. This study should serve as an opening into the field for a series of scientific studies dealing with the specific content of subjects best adapted to clerical training.

TEACHER EDUCATION

Publication of National Survey.—Perhaps the most significant event of the year in the field of teacher education was the publication of the six volumes of the *National Survey of the Education of Teachers.* These volumes may be secured from the Government Printing Office, Washington, D. C. The studies incorporated in the survey cover a wide range, including teacher demand and supply, the teacher personnel in the United States, the education of Negro teachers, curricula, and in-service education of teachers. The survey presented an enormous amount of fact and opinion bearing more or less closely upon the important task of teacher education. Since this was substantially all that the survey set out to accomplish, it would not be reasonable to criticize its directors for having failed to chart a clear course for the redirection of the education of teachers.

National Society of College Teachers of Education.—The *Yearbook Number XXIII,* (1935) of the National Society of College Teachers of Education is entitled "The Education of Teachers." It used the *National Survey of the Education of Teachers* as its point of departure, and attempted to set up guiding principles for the redirection of the education of teachers. The yearbook has chapters dealing with selective admission, curriculum, directed teaching, teacher supply and demand, and certification. The following were presented by the Yearbook committee as "Some Basic Principles in the Education of Teachers." They present in concise form what is perhaps the best thought on this subject:

1. A first step in the consideration of problems in the field of teacher education is the formulation of a social and educational philosophy with reference to their expression in the elementary and secondary school organization.

2. The program for the education of

teachers should undergo fundamental reconstruction at this time. Present programs are out of balance in that they fail to recognize the three-fold needs of prospective teachers—their needs as individuals, as citizens, and as members of the teaching profession.

3. The education of teachers should be characterized both by greater depth and greater breadth. It should include a broad general education; adequate specialized preparation, both academic and professional; and supplementary cultural contacts which make for a truly liberal education.

4. The period of education for all teachers should be lengthened, being extended as soon as possible to a minimum of five years of academic and professional education beyond high school, of which the early years should be devoted to general education.

5. Directed teaching, defined to include all desirable laboratory school experiences, is the core of the professional education of the teacher. Its importance is so great that no institution should be permitted to prepare teachers unless it is willing and able to provide adequate facilities and competent supervision.

6. The importance of education to the welfare of society and to the continued improvement of its institutions demands that the teaching profession attract to its ranks the best of American youth. The obligation rests with society to provide social and economic security for the efficient teacher.

7. Careful selection of candidates for the teaching profession is of first importance.

8. It is essential that a satisfactory relationship be effected between teacher demand and supply. This involves gathering essential facts relative to demand and enforcing a restriction of output, when necessary, in relation to the demand.

9. The responsibility in each state for fixing requirements for certification and the issuing of certificates should be vested in the state board of education and administered through its bureau of teacher certification. Certificates should be based upon satisfactory credentials and examinations. They should be issued for stated periods of time and should be renewable upon evidence of continued satisfactory service including professional growth.

10. A strong state department of education, free from political control, adequately staffed and financed, and controlled by a lay state board of education, is essential to a solution of many of the serious problems in teacher education.

VOCATIONAL EDUCATION *

By L. H. Dennis

Executive Secretary, American Vocational Association, Inc.

VOCATIONAL TRAINING AND UNEMPLOYMENT

The depression period from which we are emerging has clearly demonstrated the value of specific vocational or occupational training. During the period of unemployment, it has been noted that men and the young men who have been definitely trained for skilled occupations have generally been the last to join the ranks of the unemployed. They have been among the first to be reemployed with the beginning of increased business activity. Graduates of vocational trade schools have been placed in employment even during the depression, when graduates of other educational institutions found it difficult or impossible to secure any employment. Many men were retrained by the various vocational schools in order to fit them for new employment. Vocational training will become in-

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* The author is indebted to Frank Cushman, J. A. Linke, Earl Barnhart, and Miss Florence Fallgatter of the U. S. Office of Education staff for information and for portions of this report.

creasingly important from the standpoint of flexibility of employment. Many unemployable men have become employable by means of training or retraining in vocational classes. During the past two years, much attention has been given to the possibility of making men employable by means of vocational training.

ENROLLMENT IN FEDERAL-AIDED TRADE AND INDUSTRIAL SCHOOLS

The trends in enrollment in the several types of Federally aided trade and industrial schools correspond fairly well to the trends in employment opportunities during the period covered by this report. Workers who have felt the need for additional information and skill have enrolled in evening classes in increased numbers during the year. Young persons, who formerly were unable to find employment because adults were given preference in every available vacancy, have, during 1935, been employed in larger numbers, and, consequently, the part-time trade preparatory and trade extension enrollments have increased in considerable proportion. Enrollments in all-day trade preparatory classes have also increased as young men and women have found it impossible to secure employment in the lower age ranges. Employment prospects have looked brighter to these young persons and, consequently, rather than leave school and be unemployed, many of them have remained in school to take definite occupational training to supplement their general education. Higher beginning employment age has brought into trade course, recently, large numbers of high school seniors, high school graduates and those who have had some college training. Lack of employment for younger persons has resulted in the lengthening of trade courses and, therefore, training in preparatory courses has been more thorough, and students have left school better prepared for jobs than when employment was readily obtainable without adequate foundation training. As business conditions improve, the following conditions are observed: 1. Available skilled workers find employment; 2. Need arises for the training of additional skilled workers, and 3. Persons formerly considered efficient seek additional training and retraining for adjustment to changing employment conditions.

The distribution, geographically, of the enrollments in Federally aided trade and industrial classes for the year ended June 30, 1935, when compared with figures for the preceding year, show the following:

Total enrollment	504,865
Increase of 37,866, or 8.1%	
Evening Classes—total enrollment	157,853
Increase of 26,952, or 20.6%	
Part-Time Trade Extension and Trade Preparatory enrollment	69,284
Increase of 31,286, or 82.2%	
General Continuation School—total enrollment	144,981
Decrease of 29,616, or 16.9%	
All-day classes—total enrollment	132,747
Increase of 9,262, or 7.5%	

Encouraging increases are noted in all types of classes except general continuation. The decrease in continuation school enrollment has been consistent during the last five years. In 1930, continuation school enrollment in Federally aided classes reached its peak at 334,549. During the five-year period ended 1935, the enrollment decreased to 144,981; and from 54 per cent of the total enrollment in trade and industrial classes the continuation school enrollment has gone down in this five-year period to 28.7 per cent, which indicates that Federal aid is now being applied to a more definite type of trade training. As yet there is no sign of the flattening out of the curve indicating decrease in continuation school enrollment in Federally aided classes. Students, who formerly would be in the continuation school, are now in large numbers enrolled in trade preparatory all-day classes or in regular full-time schools.

TRADE AND INDUSTRIAL EDUCATION FOR GIRLS AND WOMEN

Enrollment.—A number of significant developments have been shown in enrollments in trade and industrial classes for girls and women during the past year. Students are more mature and further advanced in general education than formerly. Few apply for enrollment with less than two years of high school. An increased number are high school graduates, while some have had normal and college training. As a consequence, training is more direct and purposeful. Applications for admission exceed the capacity of the schools. Higher entrance age into industry has made adjustments necessary for entrance to training and duration of courses. Adults are returning to school to receive intensive training for entrance into wage-earning pursuits. In some instances all-day classes for girls and women, developed under the emergency situation, are now being made a permanent part of the public program of vocational education.

Types of Training.—Enrollment in part-time classes now consists generally of a minimum group of younger girls, who have left school either to remain at home or to find temporary employment in households until they reach the age required for entrance into industry. The all-day school is favored by girls and women wishing definite training for entrance into occupations. The reason for this situation is that, for untrained persons, the entrance wages are exceedingly low, unless the individual has employment assets. The continuation school enrollment has been greatly reduced during the last five years. General continuation work, however, still serves in solving personal problems, in adjusting individuals to types of work and in guiding young persons educationally and occupationally. Apprentice training has never figured largely in training for women, either because of the exceedingly low scale of wages for beginners in the custom trades or because of methods of production and pay prevailing in manufacturing industries.

Legislation.—Laws on the statute books in 42 states now control the training, licensure and practice of cosmetology. Regulatory provisions of nursing organizations and hospitals have raised the educational requirements for entrance to training for nursing and have increased the length and changed the content of training courses. Legislation in a number of states insure adequate standards regarding the employment of minors. Federal-State employment offices, in cooperation with trade schools, have organized and operated courses in various centers for girls and women. In consequence, girls and women have found employment.

Apprenticeship.—Progress has been made in apprenticeship training during the year. Some of the interest in apprenticeship is undoubtedly due to the organization of apprenticeship committees in the various states, in cooperation with the Federal Committee on Apprentice Training. Some of the states have employed supervisors of apprenticeship.

TRAINING OF THE UNEMPLOYED

Emphasis has been placed on training unemployed persons to fit into available jobs. Many new classes have been organized but effort has also been made to make available to unemployed persons classes already in operation. Assistance has been rendered to CCC groups in training programs, and classes have been organized adjacent to camps and made available to members of such camps.

A staff member of the Vocational Division of the U. S. Office of Education spent the entire year with the FERA, assisting the states in training unemployed teachers and organizing classes taught by unemployed teachers for unemployed persons. School programs have been arranged for training unemployed persons in prospecting, in gas and electric welding, and in adjusting individuals to available work. More complete details of training for the unemployed is given in the October, 1935 supplement to *School Life.*

VOCATIONAL AGRICULTURE

State Programs.—The extensive and varied programs which have been set up to improve the economic status of farm people are designed to improve indirectly the unemployment situations in urban areas. In other words, increasing the consuming power of farmers swells the demands for industrial products and opens up employment for urban workers. Consequently, those in charge of state programs of vocational agriculture have felt that they should do everything possible to further such programs as those of the Agricultural Adjustment Administration, the Farm Credit Administration, the Federal Emergency Relief Administration, the Subsistence Homesteads program (now under Rural Resettlement), the Civilian Conservation Corps and the Soil Erosion Service.

Teachers' Reports.—Teachers of agriculture were asked to report on July 1, 1935 certain facts about their activities in these programs for the year 1934-1935. The activities reported do not include what was done by teachers who incorporated instruction covering these programs into their regular courses given to approximately 214,000 persons enrolled in all-day, day-unit and part-time classes. To keep their courses up to date, teachers, of necessity, included instruction dealing with these programs. The report deals with other additional activities of teachers of agriculture in cooperation with the above mentioned programs. The following tabulation shows the numbers of these teachers who cooperated in the various programs in 1934-1935. It should be noted at this point that we do not have reports from Maryland, Oregon and Michigan. In several other states reports were sent in by only a part of the cooperating teachers.

Teachers cooperating with	
Agricultural Adjustment Administration	1,795
Farm Credit Administration	1,163
FERA Rural Rehabilitation	1,009
Subsistence Homesteads	232
FERA Supervision of Emergency Relief Teachers	584
Civilian Conservation Corps	147
Soil Erosion Service	997

Meetings.—The table below shows the numbers of meetings held in connection with each program. These meetings were either parts of evening classes or were special meetings.

Agricultural Adjustment Administration	18,306
Farm Credit Administration	3,987
FERA Rural Rehabilitation	8,196
Subsistence Homesteads	1,523
FERA Supervision of Emergency Relief Teachers	15,418
Civilian Conservation Corps	725
Soil Erosion Service	5,365

Persons were instructed through two kinds of meetings; (1) the teachers gave instruction as a part of their evening courses for adults or (2) they participated in special meetings. These special meetings were usually conducted for farmers either as individuals or as members of farm organizations. In a few cases per State those attending meetings were urban people, usually members of civic clubs. The table following shows graphically the numbers of persons reached through the cooperation of teachers of agriculture:

Agricultural Adjustment Administration	247,575
Farm Credit Administration	44,495
Rural Rehabilitation	31,164
Subsistence Homesteads	9,890
Supervision of Emergency Relief Teachers	45,819
Civilian Conservation Corps	11,745
Soil Erosion Service	61,036

Service Contacts.—Teachers of agriculture made many contacts with individuals. Most of these were part of the follow up in connection with evening courses. Ordinarily teachers visit members of their evening classes at their home farms and during the year the follow up included matters related to emergency programs. Other contacts were made, most of them at the request of those in charge of emergency programs or at the request of farmers. The table giving the number of service contacts follows:

Agricultural Adjustment Administration	60,218
Farm Credit Administration	20,916
Rural Rehabilitation	22,578
Subsistence Homesteads	5,392
FERA Supervision of Emergency Relief Teachers	10,881
Civilian Conservation Corps	2,077
Soil Erosion Service	18,342

Character of Teachers' Services.—Under each of the programs teachers have performed somewhat different services. In general the function of the teacher of agriculture has been considered educational and not promotional or administrative.

Agricultural Adjustment Administration.—Farmers have never faced as many new management problems as have resulted from the various production control programs. Each farmer who participated in such a program had to reorganize his farm business. Teachers have given more instruction and advice in farm management than in any previous year. Teachers received a veritable flood of information from the AAA. In their communities, they were the best informed persons. The reports show the individual contacts were sometimes not only educational but that teachers gave to farmers assistance in such matters as filling out contracts, measuring land, etc. Teachers also assisted farmers with 57,611 AAA record books.

Farm Credit Administration.—A large proportion of the meetings dealt with the various types of credit and how they might be obtained. Financing the farm business and certain related farm management problems were subjects of considerable frequency. Incidentally, teachers assisted their all-day students to obtain loans in connection with their supervised farm practice. The Farm Credit Administration made special arrangements so that vocational students could obtain loans. Many of these were emergency feed and seed loans. The total number of loans to students reported was 6,840. The individual number of services consisted largely of explanations of credit, how it could be obtained and assistance in filling out applications etc.

Rural Rehabilitation.—Meetings attended by clients were devoted to instruction in certain enterprises like poultry, fruit growing and dairying. Preservation of food was frequently included. Gardening was the subject of greatest frequency. Gardens were also the occasion of many of the individual contacts. Many clients were in urgent need of advice and assistance in such jobs as spraying, canning, disease prevention and control. Teachers assisted clients in planning farm accounts and the like. Of the 1009 teachers who engaged in rehabilitation activities, 380, or 37.6 per cent, were members of their county rural rehabilitation committee.

Subsistence Homesteads.—Very few teachers had the opportunity to cooperate with this program. In a few instances the teachers played an important role in training homesteaders to meet their subsistence problems.

Supervision of Emergency Relief Teachers.—The participation of teachers in this program varied with the extent of the program and the administrative set-up in the various states. Some states provided a supervisory staff; others depended in part on teachers of agriculture. For example, in South Carolina, 480 emergency relief teachers were supervised or assisted by teachers of agriculture. In the United States 1,441 emergency teachers were supervised or assisted by teachers of agriculture. Of these, 850 were supervised by teachers of agriculture. Six hundred and seven taught agriculture and 414 emergency teachers were definitely assigned to agricultural departments. Regular teachers of agriculture assisted emergency relief teachers by helping to organize courses, finding enrollment, furnishing teaching equipment, advising on teaching problems and in other ways.

. . **Civilian Conservation Corps.**—Opportunities for participation were few because teachers of agriculture were not located near many of the camps. In a few cases teachers of agriculture taught classes of young men or participated in special meetings. Many of the service contacts consisted of advising with instructors in the camps.

Soil Erosion.—The meetings held dealt with such problems as the nature of soil erosion, terracing, tree planting, pastures, and other seeding, dam construction, cover crops and the like. The occasion of most of the service contacts was to assist farmers with these same problems.

DISTRIBUTIVE OCCUPATIONS

Consumer Service.—The essential activities for the major groups of distributive workers—the retail store or shop owners, operators and managers, and the salespeople—are directed towards selecting and buying goods and selling them and related services to consumers. Hence in a broad economic sense the majority of the workers in distributive occupations are engaged in managing, directing, coordinating, and making economic exchanges in buying and selling goods and related services to consumers. In the carrying out of these essential functions, a great many different kinds of work necessarily must be done in order to give the needed auxiliary service in connection with the exchanges made by the primary groups of distributive workers. So in the broadest sense, distributive workers are those engaged either exclusively or partially in primary or auxiliary duties in connection with serving consumers through buying and selling goods or services of any kind, the ultimate test being service to consumers.

Workers.—No accurate figures on the number of workers engaged in distributive occupations are available; so only approximations are possible for the full-time workers, and no accurate estimate can be made for the part-time workers, in either the primary or auxiliary distributive occupations. Ten workers in each 86 workers at all ages in this country in 1930 were engaged in a distributive occupation. One male worker in each eight in this country was occupied in a distributive occupation. One female worker in each 14 was employed in this kind of work. At age of high school graduation—18-19—about 100,000 youth each year enter these employments and at ages 20-21 probably about 150,000 more each year.

Public School Classes.—High school classes for preparing youth for employment in store service occupations and in simple kinds of service selling were offered in less than 300 of the 26,465 high schools in this country in 1934-1935. The total enrollment in all kinds of salesmanship and retail selling classes in public high schools was less than 25,000 out of a total of 5,985,000 high school pupils. Of the 25,000 pupils in these classes, less than 3,000 were employed part-time, including Saturdays, in stores so as to get some contact with store work and with customers when buying. Less than 2,500 of these pupils were employed in stores a total of 10 hours or more a week, including Saturdays, so that they could gain enough experience to enable them to discover their aptitudes for store work and also to get enough acquaintanceship with selling and other kinds of store work to enable them to understand their textbooks and class instruction. As 185,746 youth at all ages under 18, in addition to 241,417 at ages 18-19, were employed in but a part of the distributive occupations in 1930, the public high schools are doing but little towards preparing youth for employment in distributive occupations, even if it is assumed that all high school classes in salesmanship and retail selling were effectively taught.

Evening Classes.—In some of the large cities evening courses in salesmanship are offered. Classes for small retailers, shop managers such as retail grocers, meat dealers, and other small scale managers, and for the employees of small stores and shops, are offered in but very few cities—not to exceed 25—most of them in Wisconsin where the State Board for Vocational Education has been successfully conducting classes of this kind for some years. The total enrollment in such classes in this country does not exceed 500 out of a total of 1,700,000 retail store owners and operating officials.

VOCATIONAL HOME ECONOMICS EDUCATION

Schools and Special Classes.—It is estimated that there are 28,405,294 women home makers in the United States. This included 3,923,516 gainfully employed women distributed among the several groups of occupations and includes females 15 years of age and over. There are 4,933,775 women in domestic and personal service. All of these women have an interest in, and a great proportion of them are responsible for, some or many phases of the responsibilities of home making and home keeping. It should be possible for all of these women to have access to needed types of home making instruction. There are now 5,747 schools in this country offering vocational programs in home economics education. These schools employ 7,333 vocational teachers of home making and provide instruction in this field for 349,346 individuals. 134,391 adult women are enrolled in special classes for women in home economics subjects.

Need For Further Development.—In spite of the splendid program indicated above, there is more to be done than has yet been done in the providing of suitable and adequate instruction in the field of home economics. It is estimated that classes could easily be extended to reach 200,000 more adult women, 70,000 more part-time pupils, and 200,000 more girls than are now enrolled in adult part-time and day school home economics education classes. This is a goal that could easily be attained if adequate state and Federal funds were available for the extension of this program. We can hardly afford to be satisfied with any such program as long as there are some communities where this type of instruction is entirely unavailable. At the present time, 20 counties in Indiana have no home economics education program. Forty-six high schools in North Dakota have as yet been unable to provide home economics instruction. Lack of funds has held up the development of the program of home economics instruction for adults in Tennessee, Virginia, New Mexico, Kentucky, and Iowa.

Increasing Demand for Instruction.—The demand for new centers of instruction in home economics education is greater in Georgia than in any previous year since the beginning of the Smith-Hughes Program. The requests for the establishment of home economics instruction have exceeded what can be granted with present available funds in Alabama, Arkansas, Florida, Louisiana, Mississippi, Kansas, Iowa, Indiana, South Dakota, Maine, Vermont, Wyoming, and New Mexico. Many schools are already on the official waiting lists in several states. Fifteen schools in Kentucky, 40 in Wisconsin, 65 in North Carolina, and 70 in Virginia have signed official applications which have been placed on the waiting list pending the availability of further funds. The next five years will undoubtedly see a substantial increase in the number of centers served by home economics education.

ADULT EDUCATION

By Ned H. Dearborn

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GENERAL

The events of the year 1935 indicate that adult education is a well established movement in American life. Its directions are not clearly discernible, and it seems chaotic in comparison with long established educational units. This seeming chaos is not alarming for two reasons: first, it is quite probable that adult education should never follow the pattern of traditional school practice; second, because the movement, as a widespread endeavor, is relatively young. The Federal government may properly be credited with having made the country adult education conscious. Through the various emergency agencies, in the main supported by Federal funds, there are adult education programs on an unprecedented scale. Without any thought of detracting from the credit due other agencies in adult education, both public and private, this report will treat first of the part completed by the National government in popularizing adult education.

ACTIVITIES OF THE FEDERAL GOVERNMENT

The activities of the Federal government in adult education have fallen under three main heads: (1) the emergency education programs sponsored and supported by the Federal Emergency Relief Administration, (2) the educational program of the Tennessee Valley Authority, and (3) the educational program of the Civilian Conservation Corps. This work is in addition to the regular agricultural extension activities authorized by the Smith-Hughes and the Smith-Lever laws that have been in operation for years. The FERA has made little change in its general program of adult education from last year. In a report of April, 1935, the program of the FERA is outlined as follows:

A. Adult Education
  1. Literacy
  2. Vocational
  3. Vocational Rehabilitation
  4. Emergency Parent Education
  5. Workers Education
  6. Educational Camps and Resident Schools for Unemployed Women
B. Emergency Nursery Schools
C. College Student Aid Program

According to this report, the total number of people engaged in the emergency education programs in March, 1935, was 44,243. This does not include figures from Delaware and New York which would increase the number by approximately 4,000. These teachers and staff workers are providing various forms of adult education and activities for many thousands of adults throughout the length and breadth of the land.

An important development of the year is the educational camps and resident schools for unemployed women. This was begun in 1934. At that time there were 28 such schools and camps organized by state relief administrations with the cooperation of organizations such as Y.W.C.A., local women's clubs, and churches. About 2,000 women were provided for in these schools and camps. In seven of the schools and camps, vocational training and guidance were stressed; in nine, a workers' education program was followed; while in the remaining 12, a general program in adult education and physical rehabilitation was in force. The schools were operated in units of four to 10 weeks. The women were young adults most of them under 21 years of age. The extension of this program for the summer of 1935 was planned and carried out.

The Tennessee Valley Authority, according to a report in *School Life* (March, 1935) conducted an educational program under the Training Section of the Personnel Division. Most of the training was vocational and made up of advanced instruction for skilled workers in their trades, instruction to semi-skilled workers in preparation for skilled work, and instruction in broad general knowledge of industrial work. In the latter type of the training, selected workers were allowed to rotate training and experience in as many as 10 different types of work such as electricity, carpentry, pipe-fitting, concrete mixing, etc. The courses were so arranged that men could attend no matter which of the four daily shifts they would be working. There was also a special training program for farmers selected from neighboring states for work on reforestation and soil conservation. This program included such work as classes in home management, in correct farm practices, and in soil conservation. The three centers for the educational program were at Norris Dam, Wheeler Dam, and Pickwick Dam. In addition to the above, at each of the centers there was a popular evening program of education and recreation comprised of lectures, concerts, dramatics, motion pictures, forums, sports, and dancing.

The CCC Camps showed a notable increase in educational offerings between September, 1934, and March, 1935. In a report published by the American Association for Adult Education in 1935 and prepared by Frank E. Hill, the number of camp advisers increased during this period from 1,052 to 1,432, the number of instructors from 8,032 to 16,723, the number of courses offered from 14,020 to 26,732, and the number of enrollees participating in the educational program of the camps increased during that period from 39% to 57%. Of the 175,000 enrollees taking courses, 24% had some elementary school training, 24% had completed eighth-grade work, 48% some high school work, and 3% had been to college. The average amount of schooling was 8.7 years. In those camps located near schools, about 9,000 men were taking courses in nearby schools and colleges. In July there were about 1,000 enrollees taking courses for credit, while during last winter the number was about 3,000. Forty per cent of the educational work in the CCC Camps was vocational. There were 85,000 enrollees engaged in ''hobby'' courses such as leather work, ship modeling, gift and novelty making; 100,000 in arts and craft classes, and 60% of the camps had classes in typing. The evidence all indicates that the educational work in these CCC Camps continued to expand during the remainder of the year. The work was among the most promising developments in the field of adult education. This was due to the unusual educational opportunities provided by the camps through the facilities of camp life, environmental conditions, and work projects.

COMMUNITY COUNCILS

During the year the work of community councils indicates that these organizations are contributing an important service to the development of adult education. They exist for the promotion of adult education in a community, for the interchange of information among members, and for the clearing of information to the general public concerning adult education activities available. Certain councils maintain a speakers' bureau and suggest lecturers and forum leaders to interested groups.

The following cities have community adult education councils that are doing conspicuous work: Albany, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Indianapolis, Milwaukee, Minneapolis, New Haven, New York, Pittsburgh, Richmond, Schenectady, St. Louis, and Washington. In addition, there are many other communities doubtless that have councils which were not reported to the source from which the above list was taken.

Illustrative of community council action, attention is called to the New York, Cincinnati, Richmond, and Boston Councils. The New York Council, in October, 1935, listed about 1,900 organizations in the city offering some form of adult education work. This list of agencies represented 15,000 courses available to adults, some free and some charging tuition. The Council had over 1,900 inquiries about courses in September, and for the ten months ended Oct. 31, received 12,331 inquiries. Nearly 60% of these were regarding vocational courses. The Cincinnati Council reports approximately 300 inquiries per month. The Richmond Council sponsored an institute on Methods and Techniques in Adult Education for teachers and club leaders. The Boston Council reports the result of an interesting experiment—the fine arts theatre agreed to show only selected feature films together with various educational ''shorts.'' A clientele has been built up through this program for the Council, and suggestions regarding programs are made by the audiences and by members of the Council. Of special interest was a series of films on the appreciation of music featuring the Cleveland Orchestra.

MUSIC EDUCATION

This work has developed under a variety of agencies. The Federal government, under the FERA has promoted music education extensively. At the present time there is a National Music Project with a large number of regional directors. A few facts regarding the work in New York City will illustrate the possibilities in this field. The Music Education Division is now in its third year. It is definitely trying to bring music to the masses. It has 20 centers with 120 teachers. There are 749 different classes in which, at the end of October, the individuals enrolled totaled 4,497. The Concert Division estimated that approximately 1,700,000 people heard programs offered by WPA orchestras. Several series were given for symphonies, bands, chamber ensembles, and dance orchestras. Concerts were held in open air parks, schools, museums, auditoriums, and armories. These concerts are now regularly broadcast over Station WNYC, a noncommercial municipal station. It is of special interest to note in a report covering Sept. 15, 1934 to June 15, 1935, that these musical organizations gave considerable emphasis to American composers. During this period, the works of 104 compositions of 67 American composers were completed a total of 220 times.

INTEREST IN VOCATIONAL EDUCATION

In spite of the uncertainty in predicting vocational changes in our industrial life, interest in vocational education has remained at a high level. The inquiries directed to different agencies is a clear indication of that interest. One example will suffice to illustrate the application and usefulness of many vocational education projects throughout the country. The schools of San Francisco established classes in electric welding to train local workers in the new type of welding now being used on the bridge across San Francisco Bay. About 100 unemployed welders, unacquainted with the latest technological advances in this field, were trained and employed. Other welders were also being trained. The training period ran from ten days to six weeks.

RADIO EDUCATION

The education work on radio has made some gains during the year. The work of the National Advisory Council on Radio in Education has continued with full vigor. The Radio Institute of the Audible Arts has been recently founded. It issues a monthly guide to current programs and special pamphlets related to the use of the radio for education and enjoyment.

Among the outstanding instances of educational broadcasts, two may be mentioned. Station WHAT, in Philadelphia, recently conducted a 15-minute daily program covering subjects in history, geography, civics, and music appreciation. The *Evening Ledger* carried appropriate announcements and articles supplementing the broadcasts. This is one instance of many that could be cited to indicate a closely working relationship between the radio industry and the press. The University of Minnesota, radio Station WLB, announced in its program for the fall of 1935 weekly broadcasts on ''World Affairs'', ''World Religions'', ''Pharmacy'', ''Music Appreciation'', ''Child Welfare'', ''Parade of Events'', and ''Lessons in German and French''. Of special interest was this station's weekly program entitled, ''What is on the Air.'' This was a broadcast guide of current and forthcoming radio programs and was especially adapted to Minnesota listeners.

PARENT EDUCATION

The Federation of Parent-Teacher Associations, the National Congress of Parents and Teachers, and similar organizations were vigorously engaged in the conduct of their usual programs. On parents' work alone, the emergency education programs of the FERA attempted to serve two needs: (1) those of parents trying to deal with serious problems that come to them through a changed social order; and (2) the needs of unemployed teachers, nurses, and social workers qualified to give professional services and leadership. This work is included in 33 state emergency programs and in Washington, D. C. Reports indicate that during the summer there were approximately 1,200 leaders and teachers in this field reaching about 28,000 parents and their children. An interesting example of university service is found in the Home Economics Extension Service of Rutgers University. This service has been conducting a radio program of parent education since 1932. Commercial broadcasting stations, the local press, and local volunteers cooperated. Interested groups in adult education are organized locally by county home demonstration agents. Each group has a volunteer chairman as well as a volunteer discussion leader. Enrollment cards and attendance sheets are supplied by the county agent or by the County Congress of Parents and Teachers. The radio listening groups which discussed the points when presented and the questions raised by the radio program are generally regarded as a successful adult education activity. The same commendation is found generally for volunteer leadership in group discussion.

FORUMS

The forum as an instrument of adult education has received universal recognition throughout the country. For this, great credit is due Dr. John W. Studebaker, United States Commissioner of Education, who as superintendent of schools in Des Moines, began an experiment and demonstration upon receiving a grant from the Carnegie Corporation. In his book entitled *The American Way,* he urges Federal support for public discussion of contemporary affairs. Other cities besides Des Moines have conducted forum work in a very successful manner. Among them are Los Angeles, Springfield (Mass.), Binghamton (N. Y.), and New York City. The topics for the most part are socio-economic, including problems of national concern as well as of local interest. The "Town Meeting of the Air" is essentially a forum broadcast and is conducted this year for the second season by popular demand. This program is sponsored by the League for Political Education. It is a weekly program and enjoys a national hookup. This program differs from the Chicago University discussion group in that there is audience participation heard over the microphone.

WORKERS EDUCATION

The Affiliated Schools for Workers held summer sessions in 1935 at Mt. Ivy, N. Y.; University of Wisconsin; Little Switzerland, N. C., and Bucknell University. The students numbered 163, a great majority of whom were union members and a number of them officers or former officers of unions. At the Summer School for Office Workers held at Bucknell, students came from as far west as Denver, as far south as New Orleans, as well as from Chicago, St. Louis, Louisville, and eastern cities. The main interest was in social philosophy built out of the experience of white collar workers.

The Western Summer School for Workers, at the University of California, enjoyed its third season. There were approximately 100 students enrolled. In addition to the courses in economics, labor problems, sociology, literature, etc., a special course for teachers in workers education was conducted. In this course practice was afforded in leading group discussions and in panel discussions. The School plans to offer this winter a series of labor institutes throughout the state.

The FERA conducted a training school for leaders in workers education during the Summer Session at New York University. A new development this year by the Workers Education Bureau is a series of broadcasts over a national chain on American Industrial Problems. Labor officials and Union workmen discussed such topics as Economic Security, The Trades Dispute Act, The Guffey Coal Bill, the Transportation Act, etc. This represents an attempt to bring before the public the problems and objects of organized labor.

Twenty-three training institutes for teachers in workers education were held during the summer of 1935 in 20 states and Porto Rico. With reports from four centers missing, the number of teachers trained was 956; the average attendance at the institutes was about 50, and the institutes were six weeks in length. The subjects studied included the social sciences, labor drama, social literature, English fundamentals, and methods and materials for classroom use. Many of the centers attempted exhibits and demonstrations of materials and methods.

ALUMNI COLLEGES

The *Journal of Adult Education* has noted the following institutions and programs for this year:

Mount Holyoke Alumnae College—Second Session—offering a program of lectures and discussions dealing with current aspects of nationalism.

The University of North Carolina Women's College—fourth annual session—offering a program related to such topics as the home, home decoration, and home furnishing.

Smith College—third annual session—providing a program of lectures and discussions on the Constitution, history, art, literature, and thought of modern France.

Wellesley College—second session—presenting a program whose four main topics were religion and philosophy, natural science, social sciences, and literature and art.

University of Michigan—two sessions—(1) at Ann Arbor dealing with lectures on politics, economics, and other social problems; and (2) at Escanaba giving special emphasis to the arts.

Cornell University—first session—providing a series of talks by faculty members on current economic and social problems.

Vassar College—conducting a program the general topic of which was current changes in education—education and social life, curricula and methods, and aims on different levels of education.

INSTITUTES

Among several summer institutes the four mentioned below are illustrative of the character of the work done through this agency:

Wellesley College—Institute for Social Progress. This Institute was open to both men and women and was not limited to alumnae. The students in this Institute represented various sections of the country and several occupations.

Vassar College—Summer Institute of Euthenics. This program was established in 1926. It treats of problems of present day living and is especially designed for parents, teachers, social workers, and parent educators. The program is offered to both men and women not necessarily alumnae.

The University of Virginia—Institute of Public Affairs. This year's program was the ninth annual session. The Institute was founded to provide for non-partisan discussion of political, social, and economic subjects of current interest.

The University of Denver—Institute of Public Affairs. This year marked its first meeting. It was somewhat similar to the Williamstown Institute of Politics. The program provided for five two-week units. It took the form of lectures and seminars of education, economics, government, sociology and philosophy.

OPPORTUNITIES FOR SPECIAL SERVICE

An exhaustive survey of this field of service has not been attempted. Three examples are mentioned herein:

(1) The Cooperative program conducted by several of the California State Teachers Colleges and the University of California for the training of teachers in the emergency education program. This was conducted under the auspices of the State Department of Education.

(2) The Division of General Education of New York University cooperated with the Board of Education of New York City and the New York State Department of Education in the administration and supervision of an emergency adult education program in leadership training and in special research related to adult education. This cooperation was made possible by a grant from the General Education Board.

(3) The Division of General Education of New York University conducted a three-day Institute for the benefit of officers, educational advisers, and supervisors of the CCC Camps in the Second Army Corps Area.

LIBRARIES

Among the several agencies contributing to the effectiveness of adult education, libraries deserve high recognition. Two illustrations serve to point out the character of the work being done by the libraries in this field.

(1) The Public Library of Los Angeles has an Adult Education Department and a departmental librarian. In the 1934-'35 report the Department listed its activities under these headings: (a) aids to individual readers;

(b) aids to group readers in book selections (leaders of adult groups, camp directors, literary and discussion groups, etc.—130 reading lists for such groups prepared); (c) aids to young people (putting them in touch with vocational and avocational opportunities of training); and (d) a definite attempt made to follow up the practices of the individuals enrolled in the "reading with a purpose" series of pamphlets in connection with this service (1,072 enrollments).

All branches of the New York Public Library distributed information on classes in adult education in the Emergency Education Projects. The Readers Adviser office in the Main Branch made up a follow-up study of clients. A study of statistical returns seems to indicate that about one-fourth of the people for whom reading lists were made did not read. The majority read about four of the books suggested in the lists. As far as educational background was concerned, those with a high school education read more books than those with a college education who were lower in the average number of books read than the grammar school education clients. This latter group read more of the books actually on the lists than either of the other two groups. There seems to be some significance, from the standpoint of importance in adult education, that those with the least schooling followed the advice of the readers adviser more closely than the others.

LEADERSHIP EDUCATION

Universities are extending their teacher training programs to include preparation for leadership in adult education. Among those which offered work in adult education in summer sessions in 1935 were Harvard, Columbia, Pennsylvania, New York University, Washington University (St. Louis), Smith College, University of California as well as state teachers colleges in Pennsylvania and California. At least 24 colleges and universities are giving courses in adult education as a regular part of their work for the year 1935-'36. Many more are giving isolated courses for specialized groups such as leadership in parent education and in religious education. The State Teachers College of Missouri held an "Adult Education Week", during the summer of 1935, based on lectures, symposiums, and forums. The International Y.M.C.A. (Springfield, Mass.) held this year a course of leadership training emphasizing especially new types of recreation and leisure time activities. The Central Y.M.C.A. (Chicago) established, for the spring term of the last school year, courses in the philosophy of adult education and techniques of group leadership. An institute for teachers of adults and club leaders was held this fall in Richmond, Va. which was sponsored by the Richmond Council of Adult Education. The program included a study of methods and techniques in adult education.

In addition, the following non-collegiate organizations offered courses in leadership training: Federation of Parent-Teacher Associations, Washington, D. C.; United Parents Associations of New York City; Child Study Associations of America, New York; National Recreation Association, New York, and the Harlem Education Committee, New York, (adult education for leaders of negro groups).

PUBLICATIONS

Among the most important books dealing with adult education published in 1935 are the following:

"What Makes a Book Readable," by W. S. Gray and Bernice E. Leary. (University of Chicago Press, Chicago, 1935). An attempt to study the elements in the preparation and selection of material in "difficult" books and "easy" books. The eight elements isolated for study are: (1) number of different hard words, (2) number of different easy words, (3) percentage of polysyllables, (4) number of pronouns, (5) average sentence length in words, (6) percentage of different words, (7) number of prepositional phrases, and (8) number of simple sentences. The intent is to serve the author who writes for the millions who now do not read much if at all as well as the teacher or librarian whose task it is to select reading materials to fit the capacities of different groups.

"The American Way": Democracy at Work in the Des Moines Forums, by John W. Studebaker. (McGraw-Hill, New York, 1935). A progress report of the city-wide system of forums in Des Moines, Iowa, organized in January, 1933, under a grant from the Carnegie Corporation of New York. Permanent local leaders and visiting lecturers were scheduled in an interlocked system of neighborhood meetings, central district meetings, and a monthly general meeting. For the most part topics of national rather than local interest were discussed. A careful survey after the end of the first year indicates that at least one adult in six in the city attended at least one forum meeting. The author calls these forums ''an experiment in mass education for civic literacy'', and advocates for the nation a system of Federally supported public forums for the social education of adult Americans.

"Ten Years of Adult Education," by Morse Adams Cartwright, (Macmillan, New York, 1935). A report of the activities of the American Association for Adult Education in the ten years since its inception. The author lists numerous agencies engaging in educational work with adults, such as universities and colleges in their alumni and extension courses, the public schools, parent-teacher organizations, libraries, museums, settlements and so on, together with critical comment on the progress of adult education under these various auspices and a summary of the amounts of money expended by the Carnegie Corporation through the Association in promotional and experimental work through these agencies.

"Adult Interests," by Edward L. Thorndike. (Macmillan, New York, 1935). In a series of experiments with adult groups ranging in age from the early twenties to the late fifties, the author and his colleagues have attempted to determine the changes in interests, both of kind and intensity, that adults undergo with advancing years. Specifically, the attempt is to determine whether there are fundamental and necessary psychological changes, apart from ability to learn, militating against educational activities for adults. He concludes: ''The decrease in the total volume of interest from the twenties to the fifties is thus slight, and is restricted largely to physical activities. The interests most needed to support adult learning show no decrease.''

"The School in the Camps," by Frank Ernest Hill. (American Association for Adult Education, New York, 1935). A humanized and personal account rather than a statistical summary of the educational work in the Civilian Conservation Corps camps.

"Annotated Bibliography on Adult Education," by William Martin Proctor. (Frank Wiggins Trade School, Los Angeles, 1935.) Important as an attempt at completeness in a field in which the number of books and articles is rapidly mounting. The book lists 839 titles and some attempt is made to cover adult education in foreign countries.

"Adjustment Service Reports," (published by the American Association for Adult Education. New York, 1935). A series of twelve reports in pamphlet form of an experiment in adult guidance conducted by the Adjustment Service. The reports treat of the selection and training of counsellors, registration and counseling procedure, the use of tests, the costs of the service, and general appraisals of the experiment.

THE EDUCATION OF NEGROES

By William Anthony Aery

Director of Education, Hampton Institute

GENERAL

The American Negro group, variously estimated at 12,000,000 to 15,000,000 individuals, faces serious educational problems because of race prejudice, relatively low economic status, and unfavorable social legislation. This group, however, through the influence of its churches, schools, and newspapers, is steadily improving in status and in outlook on life. The year 1935 brought to light many facts which must be carefully considered by those who seek to improve educational facilities and opportunities for American Negroes. Old controversies over higher and industrial education for Negroes, differentials in teachers' salaries, and leaders have given way to a new nationwide drive for adequate and diversified educational facilities and opportunities for all classes of Negroes not only in the North but also more especially in the 17 Southern States. Negro education, in the sense of referring to education that is or should be peculiar to the Negro group is really a misnomer, since there are many degrees of Negro intelligence and diverse interests which must be served by numerous educational techniques founded upon sound principles of psychology.

NEGROES AND THE DEPRESSION

The United States, according to economic and social facts uncovered during 1935, must face, with honesty and justice, basic problems that deal with millions of Negro citizens who have problems in common with all other citizens. These problems include health, morals, political status, housing, crime and punishment, citizenship, security, and self-improvement.

American depression has struck hard blows at the Negro minority group. During the first week of November, 1935, for example, according to official figures, some 1,800,000 Negroes were on Government relief. Of this number about 1,000,000 between the ages of 16 and 64 have never worked. Of some 800,000 Negroes on relief there were 16,000 white-collared or professional workers, 36,000 skilled workers, 120,000 semi-skilled workers, 200,000 unskilled workers, and 250,000 domestic servants. Dr. Ira D. Reid of Atlanta University put to the representatives of the Association of Colleges and Secondary Schools for Negroes, meeting at Fisk University (Nashville) in November, these two questions which corresponding white institutions must answer: Does college education remain a paying investment? To what fields can a college graduate turn for occupation?

RESPONSE OF LEADERS

The response of Negro leaders in education to the nationwide depression, however, was constructive during 1935. They considered seriously and fruitfully the problems of occupational opportunities, the adaptation of curricula to group needs and the financial support of public and private institutions as well as the improvement of teaching, supervisory, and administrative personnel. They became very conscious of the need of adjusting their thinking and planning for the occupational problems of the masses and the danger of simply imitating white groups in the formulation of educational programs at every level.

The United States Government, during 1935, settled quite definitely on the principle that there should be equity in educational service to racial groups (see *Works Progress Administration Bulletin,* No. 19).

During the summer a number of institutions offered, with state aid to unemployed Negro teachers, a variety of laboratory courses in nursery education, rural education, and school-arts.

The National Youth Administration, beginning in September, 1935, allotted to Negro colleges funds to aid 12 per cent of the total enrollment of students doing "socially desirable work."

AWAKENING OF PUBLIC INTEREST

Opportunities in the South.—Seventeen Southern States, during 1935, gave increasing attention to the needs of Negro public schools and attempted to face squarely the problem of equalizing educational opportunities for all their citizens, despite the prevailing economic depression and the industrial unrest among many groups of workers.

North Carolina, for example, held on May 20-21, 1935, at Chapel Hill, under the auspices of the University of North Carolina and Duke University, a Conference on Education and Race Relations, which emphasized the importance of moving toward the equality of opportunity, recognition of the cultural and economic assets of the Negro group, and the formulation of programs for making constructive changes in public and private educational institutions. This bi-racial conference of well-known leaders in education and social philosophy discussed frankly and dispassionately the differences in theory and practice as they affect Negro citizens who seek educational, industrial, and cultural opportunities for themselves and their children. Emphasis was laid upon the needs of collecting, for the use of white and Negro students, the books and documents that present the facts of Negro life—yesterday and today.

The North Carolina leaders recognized the close connections that exist between public health and a body of physically sound teachers and pupils, between liberalism and the development of a Negro culture which will parallel a white culture, between Negro retardation in the primary grades of the public schools and ineffective instruction in the Negro secondary schools and colleges, between curriculum adaptations and the development of intelligent, worthy, socially-minded citizens, between adult education and progress in the economic and social order, between adjustment of race relations and healthy working conditions for both the Negro and white groups, between the correlation of State resources, physical and human, and interracial cooperation and goodwill. These relationships, according to the conference findings, ultimately become spiritual rather than material.

Georgia.—In Georgia there was worked out at the State Teachers and Agricultural College (Forsyth) an interesting and suggestive Exchange Teacher Plan, a project in rural education which was sponsored by the University System of Georgia and the General Education Board (New York). This plan set up a functional curriculum for the training of rural teachers by offering a full quarter of practice-teaching to senior normal students working under expert supervision in real rural situations. Demonstrations were carried on in three counties. The effectiveness of the Exchange Teacher Plan showed itself clearly in Georgia and pointed the way for improving rural schools throughout the Southern States.

Virginia.—Virginia carried forward the application of its new course of study for elementary schools which emphasizes the importance of teaching children how to solve their school problems in terms of home and community life, supplemented by wide reading in the area of the school arts. Virginia, during the summer, gave training in four institutions—Hampton Institute, St. Paul School, Virginia State College, and Virginia Union University—to 1,637 Negro in-service teachers. This was simply typical of what went on in every Southern State, an attempt to offer teachers those courses which would fit them to meet more professionally the problems facing young people on the elementary, secondary, and collegiate levels.

Signs of Progress.—Indeed, the year 1935 represented an advance almost along every line in Negro education, except that of adequate support from public tax funds. White and Negro leaders, for example, came to understand better both each other and their mutual responsibilities for improving the public schools; curricula offered Negro boys and girls contained useful materials which were more definitely adapted to their everyday needs in the home and the community;

techniques of teaching improved; supervision moved in the direction of co-operation rather than mere inspection and meddling or faultfinding. In short, education for Negroes was wholesome and truly progressive.

SCHOOL-ATTENDANCE PROBLEM

Perennial problems of education remained—as they always will. One was that of improving Negro school attendance which was and is handicapped by the absence of State machinery and funds to get children of school age to attend regularly the present short-term, inadequately staffed, and poorly equipped schools. Wherever, however, there were good schools for Negro children, as they are now rapidly appearing in Southern cities, the school attendance was quite comparable with the more-favored white group.

While there is undisputed evidence that Negroes come nearer enjoying the minimum than they do the maximum benefits of the existing school-attendance laws, it is a fact that Negroes of all ranks, on their own initiative and with the hearty co-operation of a growing group of friendly whites in all groups, tended to improve the attendance at the Negro public and private schools—elementary, secondary, collegiate, and professional.

INSTITUTIONAL PURPOSES AND PROBLEMS

Dillard University.—It is always invidious to select institutions for praise, when writing generally about education. The fact remains that several institutions for Negro youth call for attention. Dillard University in New Orleans, for example, which opened in 1935 with an enrollment of 277 students, including a freshman group of 77 under the presidency of Dr. Will W. Alexander, well known for his services as an executive officer of the Commission on Interracial Co-operation (Atlanta), ''proposes to have a division system of study with the first two years given over to generalized introduction to the major fields of contemporary culture''—a distinct innovation in Negro collegiate education. The high standard of admission at Dillard led the New Orleans Board of Education to revamp the local high school ''to meet more adequately these standards.''

Atlanta University.—University education for Negroes went forward with good strides at Atlanta, where Dr. John Hope is an outstanding president. Since the Fall of 1929, Atlanta University, Morehouse College (men), and Spelman College (women) have been affiliated in a university plan, although each institution has an independent board of trustees. The graduate and professional work is carried on by Atlanta University, the college and preprofessional work by Morehouse College and Spelman College. This plan has eliminated over-lapping and has put the resources and facilities of these three good institutions within the reach of all the students. During 1935 Atlanta University offered a limited number of graduate and professional courses, conducted on a high-quality level, in biology, chemistry, economics and business administration, education, English, French, history, home economics, Latin, mathematics, and sociology. This Negro university system, which is ''located in the strategic center of the Southeastern States,'' had an initial plant of 90 acres, 38 buildings, and, for each unit, a long history of useful service. With an enrollment of over 1,000 students and a faculty of some 40 well-trained men and women it did excellent work. From 1931 through 1935 this system graduated 70 men and women with the master's degree and 479 with the bachelor's degree.

Hampton Institute, together with many other institutions which aim to serve Negroes educationally, according to the report made by President Arthur Howe, had to face during 1935 important problems of meeting the present financial situation, of providing for the advanced study of teachers, of securing improved and up-to-date equipment ''particularly for science and industrial courses, library books, and of planning for future graduate work in vocational as well as academic fields.''

COOPERATIVE AGENCIES IN NEGRO EDUCATION

General Education Board.—The education of American Negroes advanced through the co-operation of numerous agencies—State departments of education; local governing boards; public and private institutions; books, newspapers, magazines, and reports; and private foundations. The General Education Board, for example, assisted a goodly number of Negro colleges. It also co-operated with State departments of education in taking steps "to improve elementary schools and to build up a system of secondary schools." Up to June 30, 1934, "the General Education Board had appropriated $32,331,203.78 for Negro education." This Board, incorporated in 1903, has been interested from the beginning of its work in Negro rural schools and in the rôle which they can and do play in building a better rural civilization for the bulk of the Negro population. It has always been interested, for example, in the educational programs of Hampton and Tuskegee.

Rosenwald Schools.—Likewise the Board has co-operated with the Julius S. Rosenwald Fund (Chicago and Nashville), of which Edwin R. Embree is president, in helping in the erection and equipment of some 6,000 Negro rural schools which are generally known as "Rosenwald Schools." Trevor Arnett, president of the General Education Board, has said of the Rosenwald schools: "They have stimulated public authorities to extend the school term, to increase salaries, and to provide additional high school facilities, and have increased and emphasized the need for more and better-trained teachers."

The Negro Rural School Fund.—Anna T. Jeanes Foundation (Washington, D. C.), of which Arthur D. Wright is the president, sponsors the program of the "Jeanes supervisors" who improve the industrial and school-arts work which is done in hundreds of Negro rural schools throughout the South. This Fund also sponsored three experimental schools which emphasized the correlation of education with home and community needs.

EDUCATIONAL EQUALITIES

The National Association for the Advancement of Colored People (New York), of which Dr. Joel E. Spingarn is president and Walter White is secretary, took an active part in attempting to secure for Negroes the opportunity of doing professional and graduate work in the University of Maryland comparable to that which has long been offered to white students only. This Association also became interested in a similar problem which arose when a Negro was refused admission to the University of Virginia. "To awaken public opinion to the extent and nature of discrimination" has been one of the aims of the Association. Charles H. Houston (see *Crisis* for October, 1935) stated these specific objectives of the Association's educational program: "Equality of school terms; equality of pay for Negro teachers having the same qualifications and doing the same work as white teachers; equality of transportation for Negro school children at public expense; equality of buildings and equipment; equality of per-capita expenditure for education of Negroes; and equality in graduate and professional training."

RACE RELATIONS

The Commission on Interracial Cooperation (Atlanta), of which Dr. Will W. Alexander is president, is composed of Southerners and some other leaders who aim to inform the public on matters which deal with the improvement of race relations. The Commission's Conference on Education had a year of active work. The annual meeting at George Peabody College (Nashville) brought together a liberal company of Southern educators and public school administrators who discussed quite objectively measures which should be sponsored in order to prepare future citizens to understand bi-racial problems so that they may "solve them in justice and wisdom."

The Commission issued a helpful pamphlet, *School Books and Racial Antagonism*, compiled by R. B. Eleazer, a Southern man, which stressed the importance of accepting for all groups a sound educational ideal based upon the principle that "the ultimate aim of education," according to Dr. W. C. Bagley, "is the development of socially efficient men and women." Mr. Eleazer discovered that, of 20 leading textbooks used in 14 Southern States, not one "even hints that Negroes had any part whatever in the revolutionary struggle; not one mentions their participation in the Spanish-American War . . . ; though 200,000 American Negroes saw service in the World War, some of them with notable distinction, over 20 histories leave us in utter ignorance of that fact." Two-thirds of the literature textbooks studied "contain no suggestion that the Negro has ever made the least contribution to the literature of America." This pamphlet, like much literature published during 1935 by the white and Negro students of race relations, aimed to reduce public ignorance of the Negro and his numerous problems. Similar statements could be made concerning the excellent selected list of books by or about the Negro in Africa and America, which was published by the Tennessee Department of Education.

TRAINING OF RURAL TEACHERS

One of the most helpful 1935 publications in the field of education, *A Suggested Program for the Training of Teachers for Rural Schools*, was sponsored by the General Education Board. It was drafted, after three years of intensive study, to help Negro teachers and pupils in small rural schools. It was used extensively in Summer-school courses where integrated instruction—instruction related to life in rural communities—was the order of the day.

The publication of 146 pages was divided into four sections—rural community background and school management; school activities; adaptations in teaching tool subjects (reading, language, and arithmetic), and materials in teaching social studies and science.

It represented the outcome of the co-operation of the General Education Board with a number of State departments of education to prepare basic outlines for worthwhile practical courses in rural education. It aimed to help, as quickly and directly as possible, the 24,000 Negro teachers who have been at work in one-teacher and two-teacher schools which are attended by more than one-half of the entire elementary Negro school population.

SECONDARY NEGRO EDUCATION

The John F. Slater Fund (see *Occasional Papers*, No. 29) issued a useful manual, *Public Secondary Schools for Negroes*, which stated that, for 1932-1933, there were 186 counties, out of 1,501, in 17 Southern States "entirely without Negro public secondary facilities"; 70 counties provided one year of Negro public secondary education; 154 provided two years; 118 provided three years; 600 provided four years, and an average of 26.5 per cent of Negroes, 15 to 19 years of age, were living in counties that provided less than four years of public secondary work.

Another indication of the need of giving more financial support to the education of Negroes is this striking statement in the report (see p. 96) of the Governor's Commission in North Carolina: "The salary received by the highest paid (Negro) teacher is $24.03 less than the actual cost of living, and the average salary for the Negro teacher is $186.59 less than the cost of living"—and North Carolina has been forward moving in paying Negro teachers.

MEETING HIGHER STANDARDS

At the December meeting of the Southern Association of Colleges and Secondary Schools (Fred McCuistion of Nashville, executive agent for the Committee on Approval of Negro Schools), three colleges—Florida A. and M. College at Tallahassee, Bennett College for Women at Greensboro, N. C., and Virginia Union University at Richmond—were added to the "Class A" list of standard and four-year colleges, bringing that list to 14; and two—State Teachers College at Montgomery, Ala., and Lane College at Jackson, Tenn.—were added to the "Class B" list, bringing that list to 21. To the "Class A" list of tsandard two-year junior colleges the State A. and M. Institute at Normal, Ala., was added, bringing that list to three. No change was made to the "Class B" list of four two-year junior colleges.

The Association's December list of 74 accredited Negro high schools, scattered over 11 Southern States, included 1,083 teachers and 26,969 pupils (boys, 10,898; girls, 16,071). During 1935 12 Negro high schools were accredited by the Association.

NATIONAL INTEREST

Some of the problems which face those who are interested in, or responsible for, the education of Negroes were adequately treated in *Fundamentals in the Education of Negroes*, edited by Dr. Ambrose Caliver and published by the U. S. Office of Education (see *Bulletin*, 1935, No. 6), which summarized the finding of a National conference, held in Washington, D. C., May 9-12, 1934. The 90-page *Bulletin* summarized the addresses, reports of functional committees (home life, vocations, citizenship, health, character), and reports of committees on administrative levels, organization, and control. It is an excellent study of a minority group.

STUDY OF THE NEGRO

The year 1935 showed an increase of public interest in Negro History Week, which was sponsored by the Association for the Study of Negro History and Life (Washington, D. C.), founded by Dr. Carter G. Woodson, who has rendered excellent service for many years as the editor of the *Journal of Negro History*. Doctor Woodson, with limited financial support, has succeeded in arousing nation-wide interest in the study of the Negro's contribution to American civilization. A similar contribution has been made by Dr. Charles S. Johnson, professor of sociology at Fisk University, through his books and pamphlets. Dr. W. E. DuBois, former editor of the *Crisis* and at present a professor at Atlanta University, wrote *Black Reconstruction*, (Harcourt, Brace) which is a distinct contribution in the field of race relations.

SUMMARY

The year 1935 in the education of Negroes reduced the so-called "psychial differences" between Negro and white groups which are due to differences in ideals, understandings, and opportunities. It also marked increased Negro urbanization with its attendant factors of unemployment and industrial maladjustments. There was, however, in almost every phase of education for Negroes, distinct signs of country-wide progress in the struggle to equalize educational opportunities and to give the minority Negro group more economic and social justice.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Assn. for Adult Education, 60 E. 42nd St., New York City.

American Council on Education, 744 Jackson Place, Washington, D. C.

American Council of Learned Societies, 907 15th St., Washington, D. C.

American Federation of Teachers, 506 S. Wabash Ave., Chicago, Ill.

American University Union, Columbia University, New York City.

General Education Board, 49 W. 49th Street, New York City.

Bureau of Educational Reference and Research, University of Michigan, Ann Arbor, Mich.

National Congress of Parents and Teachers, 1201 16th St., N. W., Washington, D. C.

National Council of Education, 1800 H Street, N. W., Washington, D. C.

National Education Assn. of the U. S. A., 1201 16th St., N. W., Washington, D. C.

National Home and School Assn., Inc., 17 E. 42nd St., New York City.

National Research Council, Division of Educational Relations, 2101 Constitution Ave., Washington, D. C.

National Society for the Study of Education, 10 Putnam St., Danvers, Mass.

Public Education Assn., 745 Fifth Ave., New York City.

INTERNATIONAL

Institute of International Education, 2 W. 45th St., New York City.

International Council for the Education of Exceptional Children, Minneapolis, Minn.

International Council of Religious Education, 100 E. 42nd St., New York City.

Pan-American Educational Congress, Universidad de Chile, Cosilla 2543, Santiago, Chile.

TEACHERS

American Federation of Teachers, 506 S. Wabash Ave., Chicago, Ill.

Carnegie Foundation for the Advancement of Teaching, 522 Fifth Avenue, New York City.

Educators Assn., 307 Fifth Ave., New York City.

National Student Federation of America, 218 Madison Ave., New York City.

Students Cooperative Society, 565 Fifth Ave., New York City.

Teachers Union, 70 Fifth Ave., New York City.

SCHOOLS

American School Citizenship League, 295 Commonwealth Ave., Boston, Mass.

Child Study Assn. of America, Inc., 221 W. 57th St., New York City.

National Assn. of High School Supervisors and Inspectors, University of Georgia, Athens, Ga.

National Assn. of Secondary School Principals, 5835 Kimbark Ave., Chicago, Ill.

National Kindergarten Assn., 8 W. 4th St., New York City.

Y. M. C. A. Educational Secretaries Assn., 55 Hanson Place, Brooklyn.

COLLEGES AND UNIVERSITIES

American Assn. of Collegiate Registrars, University of Arkansas, Fayetteville, Ark.

American Assn. of Junior Colleges, Central College, Conway, Ark.

American Assn. of University Professors, 744 Jackson Place, Washington, D. C.

American Assn. of University Women, 1634 I St., N. W., Washington, D. C.

American Society for the Extension of University Teaching, 925 Chestnut St., Philadelphia, Pa.

Association of American Colleges, 111 Fifth Ave., New York City.

Association of American Universities, Yale University, New Haven, Conn.

Association for Colleges for Negro Youth, Shaw University, Raleigh, N. C.

Association of Land Grant Colleges, University of Maryland, College Park, Md.

College Entrance Examination Board, 431 W. 117th St., New York City.

National Assn. of Colleges and Universities, 1032 Stewart Ave., S. W., Atlanta, Ga.

National Assn. of State Universities, Miami University, Oxford, O.

National University Extension Assn., Bloomington, Ind.

New England Assn. of Colleges and Secondary Schools, Tufts College, Medford, Mass.

Phi Beta Kappa, 145 W. 55th St., New York City.

PROFESSIONAL EDUCATION

American Assn. of Teachers Colleges, State Normal School, Oneonta, New York.

American Medical Assn., Council on Medical Education and Hospitals, 535 N. Dearborn St., Chicago, Ill.

Association of American Law Schools, Tulane University, New Orleans, La.; Harvard University, Boston, Mass.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, 25 E. Washington St., Chicago, Ill.

SECTION OF LEGAL EDUCATION, AMERICAN BAR ASSN., 1140 N. Dearborn St., Chicago, Ill.

SPECIAL EDUCATION

AMERICAN ASSN. TO PROMOTE TEACHING OF SPEECH TO THE DEAF, 1537 35th St., N. W., Washington, D. C.

AMERICAN CHILD HEALTH ASSN., 450 Seventh Ave., New York City.

AMERICAN HUMANE EDUCATION SOCIETY, 180 Longwood Ave., Boston, Mass.

AMERICAN PHYSICAL EDUCATION ASSN., 311 Maynard St., Ann Arbor, Mich.

NATIONAL ASSN. FOR THE DEAF, School for the Deaf, Trenton, N. J.

VOCATIONAL

AMERICAN ASSN. FOR THE ADVANCEMENT OF AGRICULTURAL TEACHING, E. Lansing, Mich.

AMERICAN HOME ECONOMICS ASSN., 41 Eliot Memorial Road, Newtonville, Mass.

AMERICAN VOCATIONAL ASSN., Department of Public Instruction, Harrisburg, Pa.

BUREAU OF AMERICAN WORKERS' EDUCATION, 416 W. 24th St., New York City.

NATIONAL VOCATIONAL GUIDANCE ASSN., 25 Lawrence Hall, Harvard University, Cambridge, Mass.

TRADE UNION UNITY LEAGUE, 2 W. 15th Street, New York City.

NOTE: for additional educational societies consult U. S. OFFICE OF EDUCATION Washington, D. C.

NECROLOGY

(From *The New York Times*, January 2, 1936)

ABRAHAMS, Dr. ROBERT, heart and lung specialist, died March 2, age 74.

ADDAMS, JANE, founder of Hull House, Chicago; May 22, 74.

ASTRID, Queen of the Belgians, killed in motor car accident, Aug. 29, 29.

BACON, EDGAR MAYHEW, folklorist and historian of Tarrytown, Dec. 14, 80.

BAKER, Professor GEORGE PIERCE, "father of dramatic writing," Harvard-Yale, Jan. 6, 68.

BARBUSSE, HENRI, French Communist writer, Aug. 30, 62.

BERG, ALBAN, Viennese modernist composer, creator of "Lulu," Dec. 24, 50.

BENDIX, THEODORE, composer, musical director, Jan. 15, 72.

BERLEIN, ANNIE MACK, actress with Jefferson, June 22, 85.

BISHOP, CORTLANDT FIELD, internationally known as patron of art and sports, March 30, 64.

BOOTH, Dr. J. ARTHUR, New York neurologist, Dec. 22, 79.

BOUCHER, HORACE EDWARD, naval architect, April 27, 62.

BOURGET, PAUL, French novelist and academician, author of *Outre Mer*, Dec. 24, 83.

BRASLAU, SOPHIE, operatic and concert contralto, Dec. 22, 43.

BREASTED, Dr. JAMES H., Egyptologist, director Oriental Institute, University of Chicago, Dec. 2, 70.

BRECKINRIDGE, DESHA, Kentucky journalist, politician, Feb. 18, 67.

BRENNAN, WILLIAM H., general manager Boston Symphony Orchestra, April 25, 72.

BROWNSON, Rear Admiral WILLARD H., U. S. N., retired, commanded the Yankee in Spanish-American War, March 16, 89.

BYERLY, Dr. WILLIAM ELWOOD, dean of American mathematicians, professor emeritus Harvard University, Dec. 20, 86.

BYNG, Field Marshal JULIAN HEDWORTH, Viscount Byng of Vimy, June 6, 72.

CAMBON, JULES, French Ambassador at Washington and in 1914 at Berlin, Sept. 19, 90.

CAMPBELL, CHARLES FRANCIS FAULKNER, social worker among the blind, Dec. 28, 78.

CHIDWICK, the Right Rev. Mgr. JOHN P., chaplain of the Maine in 1898, Jan. 13, 71.

CHILD, RICHARD WASHBURN, author, former U. S. Ambassador at Rome, Jan. 31, 53.

CITROEN, ANDRE, organized French industries in World War, July 3, 57.

CLARK, EDWARD T., White House secretary to President Coolidge, Dec. 16, 57.

CLARK, KATE UPSON, novelist, lecturer, Feb. 17, 83.

CLARK, WALTER LEIGHTON, founder-president Grand Central Art Galleries, New York, Dec. 18, 77.

COFFIN, CHARLES HAYDEN, Anglo-American light opera star of '80s, Dec. 8, 73.

COONEY, FRANK H., Democratic Governor of Montana, Dec. 15, 63.

COONTZ, Admiral ROBERT E., U. S. N. (retired), in navy 47 years, Jan. 26, 70.

CORRIGAN, General Sessions Judge JOSEPH E., won fame as city magistrate, Jan. 9, 60.

CORSON, Dr. DAVID B., Newark's progressive educator, April 30, 71.

CUTTING, BRONSON M., U. S. Senator from New Mexico, killed in air crash, May 6, 47.

DANA, Dr. CHARLES LOOMIS, dean of American neurologists, Dec. 12, 83.

DANIELS, FRANK, comedian, Jan. 12, 74.

DAVIS, Dr. KATHARINE BEMENT, former Commissioner of Correction in New York City, social worker, Dec. 10, 75.

DAY, CLARENCE, author of the currently popular *Life With Father*, Dec. 28, 61.

DE KAY, CHARLES, poet, art critic and founder of clubs, May 23, 86.

DINWIDDIE, Dr. EDWIN C., supt. National Temperance Bureau, May 5, 68.

DOHENY, EDWARD LAURENCE, oil discoverer and promoter, Sept. 8, 79.

DOLE, NATHAN HASKELL, man of letters, May 9, 82.

DORSET, Dr. MARION, co-discoverer of hog cholera serum, July 14, 62.

DREXEL, JOHN R., New York-Paris banker, May 18, 72.

DREYFUS, Lieut. Col. ALFRED, victim of the greatest plot of history, July 12, 75.

DUKAS, PAUL, French composer, wrote "The Sorcerer's Apprentice," May 17, 69.

DU PONT, ALFRED J., organizer of du Pont de Nemours Co., April 29, 72.

ELSER, FRANK B., novelist and playwright, Jan. 31, 50.

EMERTON, Dr. EPHRAIM, Emeritus Professor of History, Harvard, March 3, 84.

EWING, CHARLES H., president of Reading & Central RR of New Jersey, Dec. 8, 69.

FARQUHARSON, JOSEPH, Scottish landscapist, April 15, 89.

FLETCHER, J. S., English novelist and historian, Jan. 31, 72.

FREEMAN, Gen. WALKER B., honorary Commander-in-Chief United Confederate Veterans, Feb. 9, 91.

FREI, ADOLPH C., mural painter, April 29, 81.

FROST, Dr. EDWIN BRANT, director emeritus Yerkes Observatory, May 14, 68.

GEER, The Rev. Dr. WILLIAM MONTAGUE, vicar of St. Paul's Chapel, Trinity, 1894-1918, March 9, 86.

GLAZEBROOK, Sir RICHARD, chairman British Aeronautical Research Committee since foundation in 1910, Dec. 16, 81.

GOODWIN, MAUD W., novelist, Feb. 5, 78.

GOULD JAY, tennis star, grandson of noted financier, Jan. 27, 47.

GREELY, Major Gen. ADOLPHUS, led ill-fated Arctic expedition in 1881, Oct. 20, 91.

GREEN, ANNA KATHARINE, founded new school of detective stories with "The Leavenworth Case" in 1878, April 11, 88.

GUERRA, JOSE SANCHEZ, former Premier of monarchical Spain, Jan. 26, 75.

GUTHRIE, WILLIAM DAMERON, international lawyer, Dec. 8, 76.

HALL, WALTER HENRY, Professor Emeritus of Church and Choral Music, Columbia University, Dec. 11, 73.

HARRIS, CORRA, novelist, Feb. 9, 65.

HARRISON, RICHARD BERRY, Negro actor, "De Lawd," March 14, 70.

HARTLEY, EMILY WAKEMAN, actress, theatre owner, Feb. 20, 62.

HASSAM, CHILDE, painter, Aug. 27, 75.

HENDERSON, ARTHUR, president of Disarmament Conference, former British Foreign Minister, Oct. 20, 72.

HENNIQUE, LEON, French dramatist, charter member Goncourt Academy, Dec. 25, 84.

HERFORD, OLIVER, Anglo-American wit, poet, author cartoonist, July 5, 71; his widow, MARGARET REGAN, playwright, Dec. 10, 52.

HILDER, HOWARD, scenic and mural painter, June 30, 68.

HOLMES, OLIVER WENDELL, retired associate justice U. S. Supreme Court, March 6, 93.

HOPSON, WILLIAM FOWLER, engraver, designer of book-plates, Feb. 13, 85.

HOPPER, De WOLF, musical comedian, Sept. 23, 77.

IPPOLITOV, IVANOV MIKHAIL, last of Czarist noted composers, Jan. 28, 75.

ISELIN, ADRIAN, banker, yachtsman, Jan. 29, 88.

JAECKEL, THEODORE, U. S. Consular Service, Dec. 26, 52.

JAGOW, GOTTLIEB Von, German Foreign Minister when World War began, Jan. 12, 72.

JELLICOE, Admiral of the Fleet EARL, defeated the German fleet at Jutland, May 31, 1916; Nov. 20, 75.

JENKINS, Professor OLIVER PEEBLES, physiologist of Stanford University original faculty, Jan. 9, 84.

JEROME, LOVELL HALL, Indian fighter, West Point's oldest graduate, Jan. 17, 85.

JEWETT, RUTGER BLEECKER, editor-in-chief of D. Appleton-Century Co., Jan. 25, 67.

JOUVENEL, HENRY DE, French statesman and biographer, Oct. 4, 59.

KENDAL, Dame MADGE, actress, Sept. 14, 86.

KONDURIOTIS, Admiral PAUL, once president of Greek Republic, Aug. 22, 80.

LAWRENCE, Colonel T. E., (T. E. Shaw), *Lewrence of Arabia*, dies from result of motorcycle accident, May 19, 46.

LENOTRE, GEORGES, popular French historian, Feb. 7, 71.

LEIGH, PHILIP, actor, English-born, June 19, 55.

LIGGETT, Lieut. General HUNTER, U. S. A., commanded army of occupation in Germany; Dec. 30, 78.

LINDENTHAL, GUSTAV, dean of bridge builders, July 31, 85.

LOCATELLI, ACHILLE, Cardinal, first creation of Pius XI, April 5, 79.

LONG, Senator HUEY PIERCE, Louisiana ''dictator,'' dies from assassin's shots, Sept. 10, 42.

LUKEMAN, AUGUSTUS, sculptor, April 3, 63.

LYON, Dr. DAVID GORDON, founder of Semitic Museum at Harvard University, Dec. 4, 83.

MacKAYE, Professor JAMES W., Dartmouth College, disputed Einstein's ''relativity'' with ''radiation'' theory, Jan. 22, 62.

MacKENZIE, Sir ALEXANDER CAMPBELL, composer, conductor, April 28, 87.

MacLENNAN, FRANCIS, operatic tenor, July 17, 56.

McCLENAHAN, Dr. HOWARD, former dean of Princeton University, Dec. 16, 63.

MENDEL, Dr. LAFAYETTE BENEDICT, Yale University, first president of American Institute of Nutrition, Dec. 9, 63.

MOORE, FLORENCE, comedienne, March 23, 48.

MONAELESSER, Dr. ADOLPH, chief surgeon A. R. C. in Spanish-American War, cancer expert, March 27, 79.

MONROE, WILLIAM NEWTON, railroad builder of the Southwest, Dec. 26, 94.

MORAN, PERCY, history painter, March 26, 72.

MORGAN, Dr. JOHN LIVINGSTON RUTGERS, Professor of Physical Chemistry at Columbia University, April 13, 62.

NORTH, the Rev. Dr. FRANK MASON, Methodist, founder Federal Council of Churches, Dec. 17, 85.

OCHS, ADOLPH S., publisher of THE NEW YORK TIMES since 1896, April 8, 77.

OLDER, FREMONT, editor *The San Francisco Call-Bulletin*, March 3, 78.

O'MALLEY, EDWARD R., jurist and for long N. Y. Attorney General, May 30, 72.

OWRE, Dr. ALFRED, former dean of Dental and Oral Surgery School, Columbia, Jan. 2, 64.

PAGET, WALTER STANLEY English war artist, Jan. 31, 72.

PAIN, HENRY J., of Pain's Fireworks Display Co., Feb. 14, 80.

PAYNE, JOHN BARTON, former Secretary of the Interior and Red Cross chairman, Jan. 24, 79.

PECK, ANNIE SMITH, mountain climber, July 18, 84.

PILSUDSKI, Marshal JOSEPH, Polish dictator, May 12, 67.

PORTER, DWIGHT, Professor Emeritus in Engineering M. I. T., Feb. 26, 79.

POST, WILEY, master aviator, Aug. 15, 35.

POUND, CUTHBERT W., jurist, Feb. 3, 70.

POWERS, EUGENE, character actor, Jan. 7, 62.

PRATT, GEORGE D., art patron and philanthropist, Jan. 20, 67.

PUPIN, Dr. MICHAEL, physicist, inventor, a pro-Ally Hungarian devoted to Serbia, March 12, 76.

READ, BENJAMIN S., president of Southern Bell Telephone and Telegraph Co., July 23, 45.

READING, RUFUS DANIEL ISAACS, first Marquess of, former Viceroy of India, Dec. 30, 75.

REESE, LIZETTE WOODWORTH, Southern poet and educator, Dec. 17, 79.

ROBBINS, WARREN DELANO, American Minister to Canada, April 7, 49.

ROBINSON, Dr. BENJAMIN LINCOLN, botanist, July 28, 70.

ROBINSON, EDWIN ARLINGTON, thrice winner of Pulitzer Prize for poetry, April 6, 66.

ROCHE, ARTHUR SOMERS, novelist, Feb. 17, 51.

ROGERS, HENRY PENDLETON, descendant of Oliver Cromwell, Dec. 11, 55.

ROGERS, WILL, beloved humorist and sage, Aug. 15, 56.

RUSSELL (AE), GEORGE W., dean of Irish letters and painters, July 17, 68.

RICE, Dr. CLARENCE C., throat specialist, July 9, 80.

SACHS, SAMUEL, banker, March 2, 83.

SALAMANCA, Dr. DANIEL, war President of Bolivia, July 17, 66.

SATTERLEE, Dr. FRANCIS, took first *x*-ray photo in America in 1896, Dec. 3, 54.

SAVILLE, Dr. MARSHALL HOWARD, Professor American Archaeology at Columbia University, May 7, 67.

SCHALL, THOMAS DAVID, blind Republican Senator from Minn., Dec. 22, 58.

SCHONBERG, Mrs. MARY GIBSON, social service organizer, April 15, 45.

SCHULMAN, ABRAM GUSTAV, painter and Professor of Art, June 2, 54.

SEARS, ZELDA, actress-playwright, Feb. 19, 62.

SEDGWICK, ANNE DOUGLAS (Mrs. Basil De Selincourt), wrote twenty popular novels, July 21, 62.

SEITZ, DON CARLOS, writer and newspaper executive, Dec. 4, 73.

SEMBRICH, MARCELLA, star of opera, Jan. 11, 76.

SERRANO, VINCENT, comedian, Jan. 11, 69.

SIBERT, Maj. Gen. WILLIAM L., engineer famed in construction of the Panama Canal, Oct. 16, 75.

SMITH, JEREMIAH, financier-diplomat, brought Hungary back to stability, March 12, 65.

SNEATH, Prof. E. HERSHEY, Yale University, edited 65 books on religious education, Dec. 20, 78.

SPROULE, WILLIAM, former president Southern Pacific R. R., Jan. 1, 76.

STEELE, RUFUS, editor staff of *The Christian Science Monitor*, Dec. 25, 58.

STEPHENS, FRANK, sculptor, June 16, 75.

STEUBEN, Gen. KUNO VON, descendant of Baron Steuben of Washington's Army, Jan. 16, 79.

STORER, Dr. MALCOLM, numismatist of Harvard Univ., Jan. 2, 72.

SUNDAY, The Rev. WILLIAM A. (Billy), evangelist, Nov. 6, 71.

TAYLOR, Brig. Gen. WASHINGTON IRVING, lawyer and 40 years in N. Y. N. G., Dec. 23, 71.

THOMAS, M. CAREY, president emeritus Bryn Mawr College, Dec. 2, 78.

THORNE, Dr. VAN BUREN, 30 years on staff of THE NEW YORK TIMES, Aug. 1, 65.

TSUBOUCHI, YUZO, translated all Shakespeare into Japanese, Feb. 28, 77.

UNTERBERG, Mrs. BELLA E., founder and president emeritus Young Women's Hebrew Association, Dec. 10, 67.

VAN SWERINGEN, MANTIS JAMES, Widwest railway and realty promoter, Dec. 12, 54.

VICTORIA, Princess, King George V's sister, Dec. 3, 67.

VINCENT, CHARLES, playwright, wrote "The Man From Mexico," March 21, 76.

VOLK, STEPHEN A. DOUGLAS, portrait painter, Feb. 7, 79.

VOLKERT, EDWARD C., artist, March 4, 63.

VOS HUBERT, portrait painter, Jan. 8, 79.

WAIT, WILLIAM CUSHING, Massachusetts Supreme Court justice who denied new trial in Sacco-Vanzetti case, Jan. 28, 74.

WILEY, LOUIS, business manager of THE NEW YORK TIMES for twenty-nine years, March 20, 65.

WILLIAMS, GAAR, the Hoosier cartoonist, June 16, 54.

WILLIAMS, Dr. WALTER, pioneer in teaching journalism, July 29, 70.

WIRTZ, WILLEM, portrait painter, April 20, 45.

WITHERSPOON, HERBERT, new general manager Metropolitan Opera Association, May 10, 61.

WOODROW, Mrs. WILSON (Nancy Mann Waddel Woodrow), novelist, Sept. 7, 65.

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